A Lecture
ON
THE OPERATIONS FOR CANCER OF THE TONGUE.

BEING AN APPRECIATION OF THE WORK OF THE LATE SIR HENRY BUTLIN.*

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AT a lecture given here a year ago on the inflammatory conditions of the mouth and tongue which precede cancer, I showed a number of sections under the microscope to illustrate the teaching of Sir Henry Butlin. I propose to-day to review the work by which he advanced the surgery of the tongue, not only by rendering the removal of cancer less unsuccessful, but what is much more important, by describing how the onset of the disease may be anticipated and prevented.

The clinical diagnosis of cancer of the tongue is liable to err in both directions, and Butlin was one of the first to employ the microscope as the essential means of confirming or varying the conclusion reached by clinical observation. Before Butlin's demonstration surgeons had not generally acknowledged the value of the microscope. This may be partly explained by the imperfect preparation of the material to be examined. A glance through the illustrations of microscopic specimens contained in the volumes of the Pathological Society's *Transactions* will give a very good idea of the gradual improvement in pathological histology by which the minute structure came to be demonstrated. In his first communication—in the *Transactions* for 1877—Butlin gave illustrations of an enchondroma of the submaxillary salivary gland which would not be recognized by the present-day student. There is a very marked advance in the next paper—in the Medico-Chirurgical Society's *Transactions*, 1878—in which he gave the first description of chronic superficial glossitis, a name previously used by Fairlie Clarke for the clinical appearances, although Clarke had not made any microscopic examination. Butlin, in his *Sarcoma and Carcinoma*, 1882, more clearly illustrated this most important condition and the changes by which it passed over into epithelioma. In 1879, in the *Proceedings of the Royal Society* and in the *St. Bartholomew's Hospital Reports*, he gave the results of his microscopical examination of the fur on the tongue; the only additions since have been connected with the examination of the micro-organisms contained in the fur, and on this definite knowledge is still lacking.

Butlin commenced operating on the tongue in 1881. In 1883 he noted the value of weak solutions of chromic acid for secondary syphilitic lesions in combination with the administration of mercury. In 1885 appeared the first edition of the *Diseases of the Tongue*, which was translated both into French and German. In 1888 he made an important advance by recommending the cutting out of obstinate gummata and tertiary ulcers. He also described sarcoma of the tongue—a condition so rare that he hesitated to come to general conclusions on the matter. In 1890, as the result of observations on two thyreoglossal tumours of the base of the tongue, he counselled an expectant attitude and a limited operation, in view of the danger, if the thyroid gland be ill-developed, of setting up myxoedema. In 1889 he more fully described the inflammatory conditions preceding cancer. He had come to supplement regularly the conclusions arrived at from his clinical experience by the microscopical examination of the disease after removal.

The importance of the microscopical examination has, however, even yet not been fully accepted. I am sorry to say that its omission in many cases shows a comfortable satisfaction in the all-sufficiency of clinical observation, and, in spite of what has been said for it, that which some call Bioscopy is the one thing often neglected until too late. On the other hand, confusion has been caused by conditions being styled epithelioma which have disappeared under non-operative treatment.

Later on Butlin submitted a number of cases to more thorough examination by Dr. Bashford, assisted by Dr. Murray, of the Imperial Cancer Research, and he described in later communications how many of the conditions he had previously termed precancerous, proved to be cases of early epithelioma. Small indolent ulcerations, apparently quite superficial, exhibited under the microscope epitheliomatous cells descending among the muscle fibres. On the other hand, quite recently within my own experience, the presumptive diagnosis of epithelioma has been corrected by the microscope to angioma, tuberculoma, or simple ulceration.

Butlin's name is most generally connected with the operation at two sittings for the removal of cancer of the tongue, which he began in December, 1895. By it he obtained results far beyond those published by other surgeons; I will emphasize the importance of his method directly. But, after all, it is a method to be adopted for epithelioma—cancer which has already set in; even if the disease is early and the patient remains free from any sign of return of the disease, yet there is always some remnant of anxiety as to the possibility of late recurrence. Now, long before he described this method of operating for epithelioma, Butlin had advocated the excision of patches of leukoplakia, warty and nodular plaques, irritable scars, and indolent ulcers on the tongue, to be followed by a thorough examination of sections under the microscope. And we ought to estimate this excision of patches at a far higher value as preventing cancer. The operation is free from risk; it does not leave a deformity nor impairment of speech, and if after examination the disease proves not to be cancer, all cause of anxiety disappears. Above all things, an excision of the patch completes the diagnosis, and should it be found, however unexpectedly, after an examination of a series of sections, that epithelioma has really begun, then the second stage, the dissection in the neck, can be undertaken without any delay.

The particular grounds for delay in adopting a radical line of treatment formerly were the application of caustics and the undue prolongation of the administration of the mercury and potassium iodide. As to the application of caustics, this practice has not entirely disappeared, and recently instances have come under notice in which this both useless and harmful procedure has appeared to directly excite the onset of cancer. As to the administration of mercury and potassium iodide, Butlin urged that an effect should be evident within ten days, not so much by the relief of symptoms, as by the actual healing and disappearance of the lesion, and when this end has not been attained within three weeks the antisyphilitic remedies should not be continued. The more intensive treatment now practised, whether mercury injection or inunctions, or injections of salvarsan, should have an even more rapid effect, and there should be therefore less excuse for any undue delay. These measures, if they do so at all, produce a decided effect at once. And yet the excising of patches and scars to prevent cancer seems at present to be more neglected. Cases drift on until some large, dangerous, and deforming operation is required. Hence the question of radical treatment is still involved in a vicious circle. The practitioner has only a terrifying operation in view, and to avoid it advises the trial of one treatment after another. Thus the simplest and quickest way of getting rid of the disease is overlooked.

Salvarsan has proved a very important adjuvant to mercury in the treatment of the severe forms of secondary syphilis attacking the mouth and throat. And in combination with a more thorough exhibition of mercury, salvarsan can aid in preventing the development of later syphilitic lesions. It may thus be an indirect means of preventing cancer. But salvarsan has now been given often enough to prove that it has no effect upon the inflammatory lesions which immediately precede cancer, and which Butlin urged should be excised. Its administration in such cases is not only a waste of time, but also diverts attention away from the one means of cure. As there is some small risk in the administration of salvarsan, there is possibly more danger in its administration than the excision of the patch under a general anaesthetic. Radium and light rays appear to have a superficial antiseptic effect, and so afford

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some relief, which does not appear to differ from such as can be more easily attained by painting on a suitable antiseptic fluid at frequent intervals. But in addition to the effect on the surface, both radium and light rays tend to excite the growing margin of true squamous-celled carcinoma and to induce a widespread and rapid infection of the corresponding lymphatic glands, which soften, break down, and develop into large excavations in the neck, or by the spread of the glandular enlargement to the root of the neck and mediastinum produce respiratory obstruction. Meanwhile the primary growth seems to spread rapidly down the mucous membrane of the fauces. Sébileau has described a case in which a papilloma on the tongue had existed for twenty-five years; on exposure to radium it rapidly became malignant. Other cases have been recorded, or have been heard of, or have come under my direct observation. In spite, therefore, of newer alternatives, we ought to follow Butlin in the excision of any lesion which fails to heal in three weeks after the removal of a tooth, the cessation of smoking, the administration of antisyphilitics, or any other form of treatment.

When on examination an excised patch or ulcer shows that epitheliomatous columns have begun to grow down into the muscle fibres it is necessary in all cases to urge the dissection required to remove the glands from the neck which may possibly have become infected. Repeated instances have occurred of late in which this has not been done, and the disease has shown itself within a year in the corresponding lymphatic glands. If the epithelioma is strictly limited to the tongue on one side and has not encroached upon the middle line or the tip or the front of the floor of the mouth, then the dissection should be done on one side only. In operating one should remove the glands in the submaxillary region without interfering with the mylohyoid muscle or hypoglossal nerve, and one should avoid opening a communication with the mouth behind the mylohyoid by leaving the submaxillary duct and the intrabuccal portion of the salivary gland. It is necessary, however, to remove any prolongation of the submaxillary gland along the facial artery as it turns up over the ramus of the jaw. The submental glands on each side of the middle line should be also excised, unless the disease is far back to one side. Especially in this last case the incision must include the lower end of the parotid gland and the septum of tissue between it and the submaxillary, otherwise infected lymphatic tissue will be left behind; further, the sterno-mastoid muscle must be well retracted so that all deep cervical glands may be dissected from the front of the blood vessels, extending from the mastoid process down to the crossing of the omohyoid. Generally in early cases it is unnecessary to go further. As to a dissection of both anterior triangles it is required when the tip or floor of the mouth in front is involved, and, of course, when the disease lies across the middle line. The wound should be drained from the mastoid angle because of the opening of the parotid capsule and the cutting across of the submaxillary duct.

Then, if only a small patch has been removed from the mouth, the resulting deformity is limited to the scar in the neck. There may be at first a slight weakness of the angle of the mouth, which passes off; if the lowest branch of the facial nerve can be spared this may not occur. The main objection to operating in two stages is the getting of the patient to submit to the second operation. One may avoid this by the aid of a microscopist, who at the operation can prepare a fresh section. Epithelioma being found, the dissection in the neck can be proceeded with.

For cases in which epithelioma has made some progress the removal of a part, a half, or even the whole of the tongue, through the mouth by Whitehead's method, is required. In doing this Butlin preferred the turning of the head to one side in place of Whitehead's half-sitting posture in a rocking chair, or the hanging-head position which is attended by so much venous haemorrhage.

The operation through the mouth is contraindicated when the tongue cannot be well freed and the disease brought outside the line of the teeth. Butlin added to the scope and safety of the intrabuccal operation by inserting beforehand a laryngotomy tube. Of course preliminary laryngotomy may be unnecessary when the mouth can be gagged widely open, when the anaesthetic administration goes smoothly and the light is good. I do not know whether any one follows Whitehead in twisting the lingual artery; at any rate, aseptic ligatures are the rule. These ligatures should arrest most of the haemorrhage, and the suturing over of raw surfaces largely controls the subsequent oozing. The additional advantage of suturing in getting primary healing is obvious. One may sometimes obtain a flap of mucous membrane from the floor of the mouth. There is a difference of opinion as to the turning back the tip when half the tongue has been taken away. The raw surface is thus closed over, and the stump is rendered more mobile, but for a time the patients make but an awkward use of it.

Whenever the floor of the mouth is involved to any extent, an intrabuccal operation becomes unsuitable. A submaxillary operation is then required, such as that of Kocher's earlier method, or some modification. For in such cases the infection must be assumed to have spread directly through the mylohyoid and hyoglossus (Cheatle) muscles, also the sublingual and intrabuccal portions of the submaxillary salivary glands are involved.

Both carotid triangles should be dissected out at a second operation, for a crossed infection may be assumed when the floor of the mouth is involved, unless it be far back near the tonsil and quite limited, when the question of dissecting the posterior triangle of the same side may come up for consideration.

To get the patient to submit to these two operations some surgeons have commenced with the neck. Butlin did not follow this, and I may quote a recent case published by Morrestin in which, after he had excised the glands from the neck, the wound became infected from the epithelioma in the mouth, septic thrombosis spread up the internal jugular into the skull and caused the patient's death.

If the patient will probably decline the second operation it is better to do all at once, even although at a somewhat increased risk.

The two additions to the foregoing procedures, which should not be adopted without very good reason, are a division of the cheek and of the jaw. As for the cheek, its division leaves a marked and obvious scar, which may be followed by considerable limitation of movement from the formation of scar tissue in the masseter. A division of the jaw introduces a serious complication. All statistics show a very marked increase in the mortality from it, for it disturbs deglutition and induces pneumonia; also, there is a great tendency to a limited necrosis and a delay in healing.

The division of the jaw in the middle line and the separation of the rami, a procedure connected with the names of Sédillot and Syme, has been resuscitated by Kocher. I hold strongly that one should employ modifications and extensions of Kocher's first method, and only exceptionally follow his second proposal. If the growth has not only invaded the floor but has become even loosely attached to the jaw, then, unfortunately, the jaw must be assumed to have become invaded, and an excision is necessary. The only limited excisions at all satisfactory are those near the symphysis not involving the masseters or internal pterygoids. When towards one side, the excision should include both the horizontal and vertical ramus behind the canine teeth, preserving the genial region, for then the stump of the tongue remains mobile, and the movement of the jaw on the opposite side is not limited.

I will now briefly note the results of operations for the removal of epithelioma. As far as regards the immediate recovery from the operation, Whitehead had no deaths among 50 cases of large excisions of the tongue. The glands in the neck were left untouched, and the majority of the cases died of glandular infection. A few survived to be reckoned as cured, but no sufficient details were published of the microscopical examinations of the disease. In 1894 Butlin gave a clinical lecture on forty-six cases of removal of one half or the whole of the tongue with one fatal result. If we combine the results published by various surgeons since 1900, we arrive at the conclusion that the average mortality from the operation, if all the severe cases are included, is about 25 per cent., that of those who survive the operation more than 10 per cent. remain alive and free from the disease three years after the operation.

Butlin's results were very much better. He calculated

that from 1881 to 1908 he operated upon 200 patients, of whom 20 died of the operation and one was lost sight of. Of those who survived the operation, 47 suffered from recurrence in the mouth, and 44 from recurrence in the glands in the neck without recurrence in the mouth. Two died from a crossed infection of the gland on the opposite side of the neck, in one the cancer reappeared on the opposite border of the tongue, one died of secondary infection of the lungs. In 8 cases the operation was partial or abandoned; 22 were alive and well or had died of some other disease within three years of the operation, 6 being alive and well one year after the operation. There remained 57 who were alive and free from recurrence three years or more after the operation. In brief, Butlin obtained a definite success in 32.76 per cent., with an immediate mortality of 10 per cent.

In 70 cases the disease on the tongue had been removed, and in addition the glands from the neck. Of these, 6 died from the operation, and 24 were alive and well over three years from the operation, or 42 per cent. With these Butlin compared 54 cases in which the glands had not been removed, and they were, on the whole, less severe cases. Yet, owing to the tendency to glandular infection, only 12 were alive and well after three years from the operation, or 29.26 per cent.

Poirier in 1901 commenced to follow Butlin, and in 1907, out of 32 cases, 5 were alive over three years from the operation, or 15.3 per cent. The mortality from the operation is directly proportional to its severity, but there are other complicating factors which add to the mortality among the less severe cases. Practically all the patients are over 40, and the majority over 50; those below 40 are all very malignant cases. Also syphilis, even although its previous manifestations have been slight, has an important influence through the blood vessels of the heart, lungs, and brain, and is responsible for fatalities from heart failure, pneumonia, and cerebral haemorrhage and thrombosis.

The danger of haemorrhage, whether primary or secondary, can practically be avoided if one considers inoperable all cases which would entail interference with the common or internal carotid arteries. The ligature of the external carotid well beyond its origin, or, safer still, the separate ligature of the lingual and facial arteries, avoids any severe primary haemorrhage, and such ligations are free from dangers of secondary haemorrhage, even although there should be suppuration in the wound. The only cases recently reported of death from secondary haemorrhage were due to ulceration into the carotid occasioned by an oesophageal tube kept in for feeding; both occurred on the tenth day after operation.

A ligature and excision of a portion of the internal jugular vein is generally free from the danger of secondary haemorrhage or thrombosis, although the case reported by Morrestin shows that it may occur. But it becomes very dangerous if the internal jugular on the opposite side has already become occluded or compressed.

Recurrence may show itself in the scar of the tongue, in glands beyond the area of the operation, or by a diffuse and general infiltration. In the last case all further operation is definitely contraindicated. If glands begin to enlarge beyond the area previously dissected, for example, in the posterior triangle of the same side, or in the opposite side of the neck, then a further free dissection in the neck may arrest the disease. I can speak of cases which have continued well after such a secondary operation.

Recurrence in the stump of the tongue, whether early or late, is generally unfavourable, and a further operation is usually contraindicated. The sort of case which may be benefited by a secondary operation is one in which there has been extensive leukoplakia, but with only a limited epithelioma. At the first operation as much as possible of the tongue has been preserved to avoid deformity. Then a complete removal of the rest of the tongue along with a thorough dissection in the neck may save the patient.

Inoperable cases are especially relieved by disinfecting the surface of the growth by painting on frequently a non-irritating but powerful antiseptic. I have generally used 1 in 1,000 mercuric cyanide painted on every four hours, and the mouth afterwards washed out with alternatively hydrogen peroxide or potassium permanganate in as strong solution as can be borne.

Radium and light rays have proved disappointing, as mentioned above; they hurry on the glandular enlargement. On the other hand, this does not seem to result from heat induced by the high frequency current. The heat cauterizes the surface and penetrates deeply, but does not cause such a deep slough as the actual cautery, nor does it stimulate excessively the glandular disease. In favourable cases a skinning over of the growth results, to the great relief of the patient.

The application of radium and light rays involves repeated sittings, and I have known great pain and faintness follow. The application of the high frequency current, termed "Diathermy," is done once under an anaesthetic.

To summarize what has been said, the late Sir Henry Butlin taught us that the excision of any persistent patch or indolent ulcer is the means for preventing the onset of cancer of the tongue. The operation is quite safe, is not followed by any deformity, and as soon as the tissue removed has been examined the patient may be assured of his safety. Further, the early excision of an epithelioma of the tongue, followed by excision of the glands in the neck, is for early cases not dangerous, and in Butlin's hands as many as 42 per cent. of such were alive and free from recurrence three years after the operation. If these cases are advised to submit to early operation one will not have to regret that cases reach an advanced stage, when severe, deforming operations become necessary. Yet I might quote any number of single cases, which have been exhibited by various surgeons, alive and well more than three years after such operation.

Sir Henry Butlin made a great advance; there is a need for much more. As he remarked, the majority of cases operated upon die of the disease, and the Registrar-General's statistics state that more than 750 people die annually in England and Wales of cancer of the tongue.

BIBLIOGRAPHY.

BUTLIN, H. T.:

Diseases of the Tongue. Cassell and Co., London. 1885. Reprinted, 1890.

Krankheiten der Zunge. Deutsch bearbeitet und herausgegeben von Julius Beregszaszy. Wien. 1887. W. Braumuller. Pp. 402, 8 plates, 8vo.

Maladies de la Langue. Traduit de l'Anglais par Douglas-Aigre. Paris. 1889. Lecrosnier et Babé. Pp. 421, 8vo. New and enlarged edition, 1900.

Enchrondroma of the Submaxillary Salivary Gland. *Trans. Path. Soc.*, 1877, xxviii, 228.

Pathology of Chronic Superficial Glossitis. *Trans. Med.-Chir. Soc.*, 1878, lxi, 51.

Fur on the Tongue. *Proc. Roy. Soc.*, 1879; *St. Bartholomew's Hospital Reports*, 1879, xv, 37.

Sarcoma and Carcinoma, 1882.

Mucous Patches. *Practitioner*, 1883, xxx, 175.

Sarcoma of the Tongue. *Lancet*, 1887, i, 623.

Gummata and Tertiary Ulcers of the Tongue. *St. Bartholomew's Hospital Reports*, 1888, xxiv, 83.

Leukokeratosis. *Illustrated Med. News*, 1889, ii, 289.

Precancerous Conditions of the Tongue. BRITISH MEDICAL JOURNAL, 1889, i, 777.

Two Cases of Thyréoglossal Tumours of the Tongue. *Trans. Clin. Soc.*, 1890, xxiii, 118.

A Clinical Lecture on a Series of Forty-six Cases of Removal of One-half or the Whole of the Tongue, with one Fatal Result. BRITISH MEDICAL JOURNAL, 1894, i, 785.

Papilloma of the Tongue. *Clinical Journal*, 1896, viii, 89.

Hunterian Lecture: On what Operation can do for Cancer of the Tongue. BRITISH MEDICAL JOURNAL, 1898, i, 541.

The Operative Surgery of Malignant Disease.

On the Special Causes of Death during and after Operations on the Mouth and Throat, and the Best Means of Arresting by Preliminary Laryngotomy. *Clinical Journal*, 1902-3, xxi, 113.

On my Unsuccessful Operations for Cancer of the Tongue and the Early Diagnosis of the Disease. BRITISH MEDICAL JOURNAL, 1903, i, 353.

Difficulty in the Diagnosis of Cancer of the Tongue. *Practitioner*, May, 1903, 595.

On Removal of the Contents of the Anterior Triangle of the Neck in Cases of Malignant Diseases of the Tongue. BRITISH MEDICAL JOURNAL, 1905, i, 285.

Illustrations of Very Early Conditions of Cancer of the Tongue. BRITISH MEDICAL JOURNAL, 1906, i, 1201.

An Address on the Results of Operations for Carcinoma of the Tongue, with an Analysis of 197 Cases. Delivered before the International Surgical Society in Brussels, September, 1908. BRITISH MEDICAL JOURNAL, 1909, i, 1.

On the Early Diagnosis of Cancer of the Tongue and on the Results of Operations in such Cases. *Proc. Roy. Soc. of Med.*, Clinical Section, 1909, ii, 99.

Burghard's *System of Operative Surgery*, 1909, ii, 205.

THE Sixth International Congress of Obstetrics and Gynaecology will be held at Berlin in September next (9th to 13th), under the presidency of Professor Bumm. The principal subjects proposed for discussion are the treatment of peritoneal wounds and the surgical treatment of uterine haemorrhage in pregnancy, childbirth, and after confinement. There will be an exhibition in connexion with the congress.

OXYGENATION AND TUBERCULOSIS.

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In the course of two investigations published by Moore and Stenhouse Williams[1] in 1909 and 1910, it was shown that the growth of the *Bacillus tuberculosis* is arrested when the atmosphere of the culture tube contains 70 per cent. or over of oxygen, and this has been confirmed by a recent series of observations by Adams.[2]

The number of micro-organisms showing this oxyphobic property is very small, for out of a list of twenty-six organisms tested by Moore and Stenhouse Williams only the *Bacillus tuberculosis* and *Bacillus pestis* showed it typically, the organisms of the staphylococcic group being only partially inhibited in their growth. To these organisms the more recent work of Adams adds two from the streptothrix group, namely, actinomyces and mycetoma.

This oxyphobic property is accordingly a somewhat specific characteristic, and the object of this paper is to point out a possible connexion between it and the seats of election of the bacillus of tuberculosis in the body and its modes of growth and dissemination, and also to indicate certain practical applications which lie outside laboratory work.

An attempt has been made by breathing experiments with oxygen, as well as by respiration experiments on experimentally infected animals, to obtain some effects on the rapidity of tuberculous development in the body. These experiments have given negative results, but a paper recently published by Buckmaster and Gardner[3] furnishes an explanation for this failure, by showing that even when oxygen is breathed there is no appreciable increase in the amount of dissolved oxygen in the blood gases.

It is also to be remembered that the seat of growth of the tubercles is only reached after the blood has not only become venous, but when the stream of nutrition has reached the condition of highly venous lymph, and usually in situations when the lymph flow is particularly slow, and the lymph is accordingly at its poorest in oxygen content.

Some other method than oxygen respiration must accordingly be devised for the purpose of bringing more oxygen in contact with the bacilli *in vivo*, such as disturbance of the relative distribution of pressures in the vascular circuit and as between pulmonary and systemic circuits, and by raising the capillary pressure in the tuberculous area, so as to increase lymphatic flow and so carry more oxygen.

It might at first sight seem that the bacillus, by choosing the lung as the favourite seat of its growth in the body, was indicating a preference for a well oxygenated area, but a little consideration of the histological pathology of phthisis, and of the portion of the lung selected in the great majority of cases, supplies convincing proof that this is not the case.

Although the blood is oxygenated in the lungs, the blood coming to the lungs is the most venous in the whole body before it reaches the pulmonary alveoli, and the tubercles containing the bacilli are not situated on the alveolar epithelium or capillaries, but in the lymphatic spaces and about the minute bronchioles in the perivascular spaces.

The pulmonary lymphatics contain lymph which has been separated from very venous blood, and this lymph does not undergo oxygenation in the lungs, so that the favourite situation for the development of tubercles is probably the least oxygenated in the body.

The favourite point of commencement in the lung is, moreover, the apex, where ventilation and movement of the lung tissue is at a minimum, and the lymph flow there is the slowest in the whole organ; the spread of the disease from the apex is usually by the lymphatic channels in a fluid with low oxygen content.

It is of interest to note that in mitral stenosis tuberculosis is very rarely found, whereas it is a frequent cause of death in pulmonary stenosis. Now, mitral stenosis, by introducing a resistance to the blood leaving the pulmonary area, will cause hyperaemia of the lung, with increased pressure in the pulmonary capillaries. This increased capillary pressure in the lung will lead to an increased velocity of lymph flow and correspondingly increased oxygenation in those perilymphatic areas where the bacillus usually commences its work. The opposite condition of stenosis on the right side of the heart leads to a fall in the pressure in the capillaries and pulmonary arterioles and a slower flow of lymph in the lymphatic capillaries fed by them, so giving typically suitable conditions for the growth of the bacillus.

In the lung, therefore, the bacillus selects the least oxygenated areas. The same is seen in the other organs and situations selected by the bacillus in the body. It is always found in lymphatic areas, where the lymph is venous and the flow slow. It is found in lymphatic glands generally, in joints and in cutaneous areas where the flow of blood and lymph are slow. In the lymphatic glands the lymph, already venous and poor in oxygen as taken up at the capillaries, has become still more venous and is moving slowly. In the joints there is an almost extra-vascular area, and the same holds for the serous cavities such as those of the pleurae and peritoneum.

Amongst the organs affected with tubercle in a general infection are the liver and spleen, especially in the lymphatic Malpighian corpuscles of the latter organ. Both these organs are on a secondary system of capillaries supplied chiefly with very venous blood, although the blood supply is a very rich one.

If consideration be paid to the histological character of the tubercle mass as it grows, it is observable that it is a non-vascular mass, which perishes and caseates as it grows in size for lack of oxygen. It is probable that the giant multinucleated cells which it contains owe their form and development to lack of oxygen—at least that is the type of result which is seen when young growing cells are partially asphyxiated. The tubercle bacilli in a tubercle are in a situation where they are in a minimum concentration of oxygen. First of all they are in relationship to the lymphatic system, where outside them the oxygen supply is at its poorest; and then, in addition, they are separated from the lymph by a non-vascular area which increases in size as the tubercle grows. This is a favourable condition of growth, and when the tubercle breaks down the live bacteria are discharged to find new points at which to start more tubercle formation.

The well-recognized treatment of tuberculous joints by the hyperaemic method of Bier is interesting from this point of view: the increased capillary pressure leads to increased lymph flow, and so does artificially for the joint what mitral stenosis does for the lung. The beneficial results upon lupus of the Finsen light treatment are also commonly ascribed to the local hyperaemia induced in the affected area. If this be so, it is an additional argument in favour of the view that increased oxygenation of the surrounding lymph is the beneficial agent, for the increased blood supply and blood pressure in the capillaries will lead to increased lymph flow, and hence to increased oxygenation of the affected area.

The treatment of phthisis by open-air methods and by high altitudes is also in accord with this view, upon which the effect obtained would in both cases be due to a common cause—namely, the more efficient ventilation of the lung, and, as a result, increase mechanically of the lymph flow, especially at the apices.

If this view be the correct one, the resistance to blood flow in the systemic circuit, and especially in the capillary portion of the peripheral circulation, ought to be kept low, so as to secure an easy return of the blood to the lungs, while, at the same time, the stimulating effect of the cool air in increasing pulmonary ventilation should be preserved to the utmost, and too much demand upon oxygen in the tissues by excessive work should be avoided. In other words, the patients should rest, or sleep, quite warmly in cool air, in that recumbent position which demands least oxygen for maintenance.

Cold in itself applied to the whole body will not be a benefit but an evil, since it will give no superior oxygen value at that part of the vascular system where it is demanded. This point is experimentally proved by a series of experiments which have recently been carried out by J. G. Thompson, M.B., Ch.B., and the author in collaboration.

Through the kindness of Sir Ronald Ross we were allowed the use of a large cold chamber supplied to

the Tropical School of this university by the generosity of Sir Edwin Durning-Lawrence, Bart. In this chamber we exposed a number of guinea-pigs which had been inoculated with tuberculosis to a temperature of 0° C. to −5° C., while another set were kept in air at ordinary temperatures, and a third set in an atmosphere enriched by oxygen. It was found that the tuberculous lesions developed most rapidly of all in the animals kept in the cold chamber. At that time we were anticipating the opposite result, but there is no doubt whatever in our minds as to the results of the experiments—namely, that keeping in a cold atmosphere does not by itself alone inhibit the growth of the tubercle bacillus, but rather the reverse.

What is, then, the mode of action of the fresh air treatment? There is nothing different in the chemistry of the air, and it would appear as if it administered a purely physical stimulus to increased pulmonary ventilation, due to the reflex nervous effects of the draughts of cold air playing upon the face.

The lassitude due to confinement in heated rooms, and its removal by fanning or movement of the air, have been explained in this way by Leonard Hill, who has shown that the accumulation of carbon dioxide in the air of occupied and heated rooms has nothing to do with the matter. The cooling by convection and evaporation from the skin of the face leads to increased respiration, and removes at once the feeling of lassitude and oppression.

It may next be asked in what way does increased pulmonary ventilation affect the tubercle bacillus, and it may be pointed out that it is not purely by increased uptake of oxygen, for, as has been stated above, animals left even in an atmosphere of oxygen in a resting condition have no more oxygen in their blood than when breathing air, and develop tubercle, as Adams has shown, just as rapidly as other animals in ordinary air.

The other effect is increased movement of the lungs, leading to increased lymph flow, and hence increased rate of oxygen access to the actual site of the tubercle.

It is this action which, in our opinion, gives the beneficial action of the fresh air treatment. Without such a stimulus a patient cannot by voluntary effort in any breathing exercises keep up for any length of time an increased ventilation; he becomes apnoeic, and the respiration diminishes automatically. For this reason some experimentation would appear necessary upon the subject of how best to administer the cool air in drafts or puffs over the face so as to keep up the stimulus most effectually and for the longest period, and as to what alternations are of most advantage in such administrations of fresh air.

The same effects are seen at work in the treatment of phthisis by high altitudes, where the oxygen supply is considerably less than at sea-level. Here the patient is compelled vigorously to ventilate the lungs in order to obtain sufficient oxygen, especially if any light exercise be taken. It is certainly not in this case an enrichment of oxygen. But the changed conditions are such as to give more oxygen locally where it is wanted—namely, in the lymphatic spaces of the lungs where the tubercle bacillus is situated. The over-ventilation alternately distending and collapsing the lung tissues sends a rapid stream of lymph along bearing more oxygen in solution past the tubercles. At a high altitude the cooler air also plays its part in inducing increased ventilation of the lung, and the two effects work together.

If this view be the correct one, the things to be aimed at in treating phthisis are such as will secure increased oxygenation at the site of the tuberculous lesion. This is obtainable by hyperaemia of the affected area and increased lymph flow at that part. In regard to the vascular circuit as a whole, the resistance should be so affected, if possible, that the pressure is increased in the pulmonary capillaries before the alveolar areas are reached, and the systemic circuit should be vaso-dilated, so as to send the blood to the pulmonary region as highly oxygenated as possible. Next, the ventilation in the lung should be increased as much as possible so as to cause a mechanical lymph flow. The body of the patient should be kept warm, and the face, if possible, subjected to rhythmic applications of cool air at such a rate as to stimulate respiration. Exercise should be indulged in to that extent to which it will somewhat stimulate ventilation without loading up the system with unoxidized products by making too great a demand upon oxidation, and this exercise possibly might best be in the open air, alternated with the cold air applications.

REFERENCES.
[1] *Bio-chemical Journal*, vol. iv, 1909, p. 177; vol. v, 1910, p. 181.
[2] Ibid., vol. vi, 1910, pt. 11. [3] *Proc. Roy. Soc.*, B, vol. lxxxv, 1912, p. 56.

EXPERIENCE OF THE DIORADIN TREATMENT.

A REPORT UPON TEN PATIENTS WHO RECEIVED THE TREATMENT.

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DIORADIN is a combination of chemical substances introduced for the treatment of tuberculous affections by Dr. Szendeffy, of Budapest.

An announcement of its alleged marvellous efficacy was made in the English lay press in May, 1911. Some allusions to its composition were made in the BRITISH MEDICAL JOURNAL at that time.

At the beginning of August Dr. Bernheim came to England. Dr. Bernheim is President of the French Department for the dealing with human tuberculosis and Chief Physician of the French antituberculosis dispensaries, and he came with credentials from the English Ambassador in Paris.

I had the pleasure of a long interview with Dr. Bernheim, and he very kindly provided me with a supply of the dioradin sufficient for the systematic treatment of ten patients.

He assured me that, though he had given several thousands of injections, he had never seen any ill effects, and he was enthusiastic with regard to the beneficial results. In these circumstances I felt that it was my duty to test the method of treatment.

Dioradin is said to contain peptonized iodine, menthol, ethereal solution of radium barium chloride, and almond oil.

It has been said that peptonized iodine is a compound unknown to chemists. Dr. Bernheim explained that the substance indicated is what we term iodo-albumose. Menthol is a stearoptene; it is somewhat loosely described by Dr. Szendeffy as a terpene, but terpenes and stearoptenes are not far apart chemically, both being derived from essential oils. The critic in the BRITISH MEDICAL JOURNAL said that he could not find any terpenes on analysis of dioradin, but recognized the presence of menthol. Radium barium chloride is soluble in ether, and is added in solution. The excipient is almond oil.

Dioradin is an oily fluid, smelling strongly of menthol, with a suggestion of iodoform. Dr. Bernheim told me, however, that iodoform was not present. Dr. Melville found at the Brompton Hospital that dioradin has some radio-activity.

Dioradin is administered by intramuscular injection with aseptic precautions. The dose is 1 c.cm., given daily for thirty days, followed by fifteen more injections on alternate days. If necessary, a further course may be given after a period of rest.

The contraindications to the use of the preparation are said to be disease of the heart or kidneys, but no record of ill results from its use in such cases is given in Dr. Bernheim's report. Symptoms of iodism and diarrhoea call for cessation of treatment, but again the report does not include any examples of these complications, and Dr. Bernheim told me that he had not met with any.

The cases were selected for the treatment with great care, and represented common types of the disease. In all the diagnosis of tuberculous infection was certain; in the 9 cases of pulmonary tuberculosis tubercle bacilli had been found in the sputum, and in the case of tuberculous peritonitis and epididymitis the clinical characters leave no room for doubt as to the diagnosis.

In none of the cases has any ill effect, either general or local, followed the injections. Several patients said that they could taste the injections for some time afterwards, and in one or two cases there was a slight increase of cough after a few days.

Dr. Bernheim gives ten conclusions as a result of his observations of the use of dioradin:

1. It destroy's Koch's bacillus. He states that under treatment tubercle bacilli in the sputum become less numerous or disappear altogether.
2. It destroys streptococci.
3. It improves the general condition.
4. It increases the strength of the patient.
5. It increases the weight.
6. It continues to do good in spite of intercurrent affections.
7. It cures tuberculous adenitis.
8. It helps tuberculous laryngitis.
9. It acts locally in pulmonary tuberculosis, suppressing the cough, diminishing the sputum, and removes the fever and night sweats.
10. It regulates the gastric functions.

CASES TREATED BY DIORADIN.

1. *Early Apyrexial Type (Ambulant Afebrile).*

Frank H., aged 19, an engineer's apprentice, was admitted to the Brompton Hospital on August 2nd, 1911.

History.—He had coughed up half a pint of blood in January, 1911, since then slight cough and expectoration had persisted, with three more slight attacks of haemoptysis.

On admission there were signs of infiltration of the apices of the upper and lower lobes of the right lung, with numerous crepitations. There was some impairment of resonance but no crepitation at the left apex. Tubercle bacilli were present in the sputum in large numbers.

The temperature varied between 97° and 98.8° F.

Daily injections of dioradin were commenced on August 5th. He complained at first that some headache followed the injections, but later there was no such complaint.

On August 28th he had gained 2¾ lb.; there was practically no cough and no expectoration. The sputum was re-examined, and a few tubercle bacilli were found on the second slide.

The temperature for the last week remained at 97° F. The crepitations at the right apex were no longer audible.

On September 1st he was sent to the sanatorium at Frimley. While at Frimley two more series of injections of dioradin were given, each of fifteen injections on alternate days. He left Frimley in November; the cough persisted, but there was very little sputum. While at Frimley he gained 10 lb. in weight.

On January 5th, 1912, the sputum was examined and found to contain tubercle bacilli.

On May 22nd, 1912, his mother wrote that after leaving Frimley he appeared to be in the best of health and started work (engineering). After three weeks, pyrexia commenced and the sputum increased. He was given light work in the open air. He did not improve and had an attack of haemoptysis, and had been in bed for five weeks.

Recently he has wasted considerably. His temperature varies from 99° to slightly above 101°.

2. *Apyrexial Fibrous Type (Chronic Ambulant Afebrile.)*

James S., aged 39, carman. Admitted to the Brompton Hospital on August 4th.

History.—Haemoptysis (4 oz.) four years ago with a cough lasting about a week. No return of symptoms until April, 1911, since when he has had a cough with expectoration occasionally streaked with blood.

On admission there were signs of infiltration with fibrosis of both lobes of the left lung to the fifth rib in front and the angle of the scapula behind. There was also evidence of infiltration of the apex of the right upper lobe. Tubercle bacilli were present in the sputum on August 5th.

The temperature varied between 98° F. and 99° F., reaching 99° F. on six occasions between August 4th and 14th.

Daily injections of dioradin were commenced on August 14th.

Report on September 1st.—Fewer râles to be heard in the chest. Weight has increased from 9 st. 13 lb. to 10 st. 2¼ lb. Cough and expectoration less; tubercle bacilli still present. Temperature usually subnormal, reaching 99° on August 16th and 17th, but not subsequently.

The first course of thirty daily injections of dioradin was completed on September 13th. On that date it was noted that the cough was troublesome, the temperature was steady, the weight had increased by 4¼ lb., and the physical signs were practically unchanged.

Between September 17th and October 12th he had a second course of fifteen injections given on alternate days.

On October 12th it was noted that the added sounds were no longer audible at the right apex, though the signs in the left lung remained as before. There had been a further gain of weight of 7¾ lb.

On October 17th a course of bacillary emulsion was started (0.00002 c.cm to 0.003 c.cm).

He left the hospital on November 1st. The notes record that there were no moist sounds audible over the right lung, but that the left lung was in the same condition as on admission. There was no cough; he felt very well and had gained 12½ lb. while in the hospital. On January 1st he was still working; he had gained a further 6 lb. in weight, had very little cough or sputum. The sputum, however, still contained tubercle bacilli.

On May 22nd, 1912, he reported that he felt quite well, had no cough to speak of, and brought up very little phlegm.

He had not consulted a doctor since leaving the hospital, and had not taken any medicine.

He is not doing much work owing to the difficulty of obtaining any. A month ago he did a fortnight's hard work, and did not feel any the worse for it. Present weight, 12 st.—an increase of over 2 st. since August last.

3. *Apyrexial Fibrous Type (Ambulant Afebrile).*

Henry H., aged 38, railway guard. Admitted to the Brompton Hospital on June 21st, 1911.

History.—Cough and expectoration for eighteen months; no haemoptysis.

On admission there were signs of infiltration with some excavation and fibrosis of the upper and lower lobes on the right side and of the upper lobe on the left side.

Tubercle bacilli were present in the sputum on June 24th and on August 8th.

The temperature between June 21st and August 5th ranged between 97° F. and 99° F., reaching 99° F. on fourteen occasions. Daily injections of dioradin were commenced on August 5th.

Report on August 28th.—A few fine crackles to be heard at each apex. Between June 21st and August 7th (no special treatment) the weight had increased 10 lb.; since August 7th there had been a further gain of 3 lb.

Tubercle bacilli were present in sputum on September 2nd, but were scanty.

Between August 5th and September 1st the temperature ranged between 97° F. and 98.6° F., never reaching 99° F.

The patient said that he could taste the dioradin a few minutes after the injection, and he thought that it led to a slight increase of the cough.

Since his discharge it has not been found possible to get any information with regard to this patient. Letters elicit no reply.

4. *Apyrexial Fibrous Type (Ambulant Afebrile).*

Ernest W., aged 29, clerk. Admitted to the Brompton Hospital on June 20th, 1911.

History.—Cough, with expectoration and loss of weight persisting since December, 1909.

On admission there were signs of excavation with fibrosis at the apices of both lobes of the right lung, and of slight infiltration of the apex of the upper lobe of the left lung. Tubercle bacilli were found in the sputum on June 27th. From June 20th to August 5th the temperature ranged between 97° and 99° F., reaching or slightly exceeding 99° F. on twenty-three days. On August 5th, when the dioradin treatment was commenced, the cough and expectoration had diminished considerably; there were fewer râles audible in the chest, and the weight had increased 1½ lb.

Report on September 1st.—Cough somewhat increased; no râles heard in the chest. Weight had dropped 1 lb. Temperature 97° to 99° F., reached or exceeded 99° F. on fifteen days—that is, has not been steadied by the injections.

Tubercle bacilli were present in sputum on September 2nd. After 30 daily injections a second course of 15 injections on alternate days was given. On September 18th he was sent to Frimley.

January 20th, 1912. The patient is still at Frimley; he has had to be confined to bed on several occasions on account of pyrexia. The cough was much less, and only troublesome in the early morning; the sputum was reduced to about an ounce and a half per diem. The weight had increased another pound. Tubercle bacilli present in the sputum on January 18th.

February 9th, 1912. He left Frimley. The temperature was normal; sputum about two ounces per diem; weight increased two more pounds; few added sounds were heard over the lungs.

May 22nd, 1912. He reported that he had been fairly well since leaving Frimley, but that he had been feeling seedy for the last few days. The morning temperature varies between 97.2° and 98°, and the evening temperature between 98° and 93°. The sputum was still about one and a half ounces daily. The weight had dropped about 10 lb. The cough had been troublesome, especially after meals, and there had been some vomiting in the evening.

5. *Apyrexial, but with Ready Pyrexial Response (Resting Afebrile Ambulant Febrile).*

Annie E., aged 27. Admitted to the Brompton Hospital on July 28th.

History.—Cough, with some expectoration, since 1909. No haemoptysis.

On admission there were signs of infiltration of both lobes of the left lung, as low as the sixth rib in front and the angle of the scapula behind. There was also some infiltration of the apex of the right upper lobe.

Tubercle bacilli were found in the sputum on July 30th. From July 28th to August 5th the temperature ranged from 98° F. to 99.6° F. Treatment commenced on August 5th.

Report on September 1st.—Cough somewhat increased by the injections, which seemed also to give rise to some giddiness. Weight 1 lb. less than on admission. Temperature 97.6° to 99° F., rather lower than before the injections were given, but is still irregular.

Tubercle bacilli present in sputum on August 15th and September 1st. After the completion of the first course of thirty daily injections a second course of fifteen injections on alternate days was given.

On September 27th the temperature was still slightly irregular, and there was still some cough. The signs in the chest had not altered since admission to the hospital.

The second course was finished on October 4th. After its cessation the temperature became steadier.

She was discharged on October 23rd. The last note records that the right side of the chest was dry, and the left side drier than on admission. Tubercle bacilli were present in the sputum on October 22nd.

Total gain of weight while in hospital was 4¼ lb. On January 18th she reported that the cough was worse, and that she had been confined to the house for some weeks; there was a large quantity of sputum, and tubercle bacilli were present. The temperature rose to 100° F. each evening.

Since then letters have not elicited any reply.

6. *Apyrexial, but with Ready Pyrexial Response (Resting Afebrile, Ambulant Febrile).*

Arthur F., aged 19, potter. Admitted to the Brompton Hospital on August 11th.

History.—Cough and expectoration since April, 1911. No haemoptysis. Recently has been living in a cottage in the country and has gained weight.

On admission there was evidence of infiltration of upper and lower lobes of the right lung and of the apex of the upper lobe of the left lung.

Tubercle bacilli were present in the sputum on August 18th. The temperature up to August 20th ranged between 98° F. and 99.8° F.

Daily injections of dioradin were commenced on August 20th.

Report on September 1st.—Physical signs unchanged. Weight gained since admission, 9¼ lb. Tubercle bacilli present in sputum on September 1st. Temperature more irregular since injections were commenced, varying from 98° F. to 100° F. There were no symptoms referable to the injections.

The first course of injections was finished on September 20th. The moist sounds audible in the chest were then fewer than on admission, and the weight had increased 5¾ lb.

A second course of fifteen injections on alternate days was then commenced. This was completed on October 20th. On that date the physical signs remained unchanged; the weight had increased by 3½ lb.; the cough was still troublesome.

He left the hospital on November 10th, having gained another ½ lb., a total gain of 9¾ lb. since admission. On January 18th, 1912, he reported that the cough was about the same as on discharge, but that the sputum had increased. He had lost 4½ lb. in weight. Tubercle bacilli were still present in the sputum. On May 22nd, 1912, the cough was described as "racking," the sputum had increased, and the weight had dropped 12½ lb. since January.

7. *Pyrexial Type (Resting Febrile).*

Elsie H., aged 19, saleswoman. Admitted to the Brompton Hospital on July 7th, 1911.

History.—Cough and expectoration since January, 1911. Worse for the past month. Sputum occasionally streaked with blood. Father died of pulmonary tuberculosis two years ago; mother tuberculous (Case 8).

On admission there were signs of infiltration of both lobes of the left lung and of the upper lobe of the right lung.

Tubercle bacilli were present in the sputum on July 10th. From July 10th to August 10th the temperature ranged from 98.6° F. to 100° F., 101° F. or 102° F., and the weight fell 4 lb.

On August 10th the physical signs were as on admission.

Daily injections of dioradin were commenced on August 10th. Absolute rest, and Lees's inhalation also.

Report on September 1st.—The physical signs were unchanged. At first the injections caused some headache, but not lately. The cough was easier and she felt better.

Tubercle bacilli were present in the sputum on September 1st. The temperature during the course ranged from 99° F. to 100° F., 101° F. and 102° F.; the injection seemed to have no influence on the pyrexia.

The course of thirty injections was finished on September 8th. During the course the temperature rose frequently to 102° F.; after the last injection the temperature began to fall gradually, reaching normal at about September 16th; on September 18th absolute rest ceased, and on September 25th she got up for one hour.

The disease remained afebrile until she left the hospital for Ventnor on November 27th. While in the hospital she lost 11 lb. in weight, though during the last two months—that is, after the cessation of the dioradin—she gained 3 lb. Tubercle bacilli were present on November 25th.

On January 12th a report from Ventnor said that she was keeping pretty well, though the cough was troublesome.

She remained at Ventnor (St. Catherine's) until March 30th. Since then she has been in the country with friends. The cough is troublesome, and on May 22nd, 1912, she weighed the same as on admission to Brompton. She feels very well, but owing to the cough is unable to do any business.

8. *Pyrexial Type (Resting Febrile).*

Emma H., aged 42, widow. Admitted to the Brompton Hospital on July 14th.

History.—Cough and expectoration since June, 1909. In Victoria Park hospital in 1909, improved. Getting worse since June, 1911. Husband died of pulmonary tuberculosis in March, 1909. Daughter has pulmonary tuberculosis (Case 7).

On admission there were signs of infiltration without softening of both lobes of the left lung and of the upper and lower lobes of the right lung, with some crepitation beneath the right clavicle.

Tubercle bacilli were present in the sputum on July 17th. From July 14th to August 10th the temperature ranged from 98.4° F. to 100° F. or 101° F., and during this period she lost 2½ lb. in weight. Daily injections of dioradin were commenced on August 10th.

Report on September 1st.—Physical signs unchanged. Tubercle bacilli present in sputum on September 1st. Weight stationary. At first the injections caused an increase of the cough and some headache. The cough is still troublesome. The temperature has been somewhat higher since the injections were commenced, seldom reaching normal.

The thirtieth injection was given on September 8th. After cessation of the injections the temperature became somewhat steadier. Signs of excavation gradually developed in the left lung, and on September 27th a definite diagnosis of cavity in the left lung was made. The case now was afebrile when resting, but febrile when the patient got up.

On October 16th it was decided to produce an artificial pneumothorax. Between that date and May 22nd the operation was repeated eight times, 500 to 1,200 c.cm. of nitrogen being introduced on each occasion. The case soon became afebrile; weight increased, and the cough diminished.

Tubercle bacilli were found in the sputum on January 12th, 1912.

On May 22nd the temperature had been normal for weeks. The cough was much less, and the sputum was reduced to 1 oz. per diem. She weighed 10 lb. more than on admission. There were signs of a left hydro-pneumothorax.

Tubercle bacilli were present in the sputum on May 6th. The patient is now at Frimley.

9. *Chronic Fibro-caseous Type (Resting Febrile).*

John McD., aged 35, a labourer, was admitted on June 21st, 1911.

History.—He had had a winter cough for years; this had not disappeared during the last summer. There was free expectoration, but no haemoptysis. There were signs of excavation in the upper part of both lobes of the right lung and of infiltration almost to the base, and also of infiltration of the apices of both lobes on the left side.

The temperature was irregular, rising at first to 102° in the evening, and falling to normal in the morning. After a few days it became steadier, generally reaching 99° in the evening.

During the first month he improved considerably, and at the end no moist sounds were heard over the left lung. Tubercle bacilli were present in the sputum. On August 5th a course of daily injections of dioradin was commenced. After the commencement of the injections the temperature became, and continued, subnormal. The cough remained rather troublesome, and on September 2nd the sputum still contained tubercle bacilli.

Before the course began he had gained 3¾ lb.; afterwards he gained 5¾ lb. more.

A second course of injections on alternate days was commenced on September 7th, but only six injections were given, because he discharged himself from the hospital. There were fewer moist sounds audible in the chest than on admission.

Two days after reaching home he was taken ill with severe pains in the side and high fever. He died on November 6th.

10. *Tuberculous Epididymitis and Peritonitis.*

Reginald T., aged 15, double tuberculous epididymitis and ascitic form of tuberculous peritonitis. No evidence of pulmonary tuberculosis.

A course of injections of dioradin was given between August 14th and September 13th. The temperature, which was intermittent before the course began, swinging from 97° to 100°, was not affected by the injections. The patient could taste the dioradin shortly after each injection, otherwise no immediate or remote effect could be discovered. The local signs of disease showed no change.

On October 2nd laparotomy was performed and 62 oz. of fluid evacuated. After the operation he began to gain weight and left the hospital weighing 25 lb. more than on admission.

On January 17th, 1912, he was found to be not so well—the abdomen had swollen again and there was some albuminuria, arousing suspicion of amyloid disease.

On May 22nd, 1912, his father reported that his general condition had improved in strength and energy. He was able to walk more upright and the legs were less swollen. The intestinal symptoms were less troublesome.

CONCLUSIONS.

The claims made on behalf of dioradin may be reviewed seriatim:

1. In one case of pulmonary tuberculosis (No. 1) the tubercle bacilli, which were numerous in the sputum on admission, were difficult to find at the end of a month, but were still present five months later.

In the other eight pulmonary cases the tubercle bacilli were still present in the sputum so long as the patients remained under observation.

2. The action on streptococci was not tested. One patient suffered from acne which was not benefited by the treatment.

3. In six cases improvement was recorded during the treatment. In one of these the improvement has been

maintained (No. 2); four relapsed later (Nos. 1, 4, 5, 6), and of one (No. 3) no subsequent report has been obtained.

In one case there was slight improvement during treatment (No. 9), but the patient died shortly after leaving the hospital.

In three cases (Nos. 7, 8, 10) there was no obvious improvement during the continuance of the treatment.

In none of the cases was there evidence of complete arrest of the disease.

4. The strength improved with the general condition, and the remarks under the last heading may be applied here.

5. Seven patients gained weight during the treatment; one (No. 2) has continued to do so; three lost weight (Nos. 1, 4, and 6) subsequently, and of two there is no further report.

Two patients (7 and 8) lost weight during the treatment, but gained weight subsequently. In the case of tuberculous peritonitis there was a gain in weight after the operation.

6. None of the cases developed intercurrent affections, and this assertion could not be tested.

7. No case of tuberculous adenitis was treated; the case of tuberculous epididymitis and peritonitis did not seem to be influenced by the treatment.

8. No case of tuberculous laryngitis was treated.

9. Evidence of local action was difficult to find. In Case 3 the patient said that he could taste the dioradin a few minutes after the injection, and thought that it slightly increased the cough. In Case 8 it seemed to increase the cough.

In other cases the cough and sputum diminished. In Cases 7 and 8 there was no reduction of the pyrexia during the treatment, but the cases became afebrile after its cessation. In none of the cases were night sweats a prominent feature.

10. It was not possible to recognize any effect, good or bad, upon the gastric functions.

It does not seem to me that any of the cases, though they were treated accurately in accordance with the instructions, can be quoted to justify any claims for the therapeutic efficacy of dioradin.

I have to thank Dr. Hartley for permission to make use of the cases which were under his care, and Dr. Tattersall for his assistance in giving the injections and following up the cases.

ANAESTHESIA BY THE INTRATRACHEAL INSUFFLATION OF ETHER.*

BY

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IN the year 1660 Hook showed that if the mouth of a bellows was tied into an animal's trachea, the chest walls removed, and the lungs extensively punctured, it was possible by inflating the lungs to keep the animal alive in the absence of efficient respiratory movement. Further, in birds whose bones are air sacs in communication with the trachea, it is possible to restore animation after both sides of the thorax had been opened by forcing a draught of air through one of the long bones.

It remained, however, for Meltzer and Auer about eighteen months ago to show that if air is forced under pressure through a tube passed through the glottis without entirely occluding it, life could be maintained without respiratory movements either when these movements were paralysed by curare or rendered ineffectual by opening both sides of the chest.

Though the movements of breathing change the air in the trachea and larger bronchi, the real respiration is an interchange of gases by diffusion. The partial pressure of oxygen in the trachea is greater than the partial pressure in the alveoli, which is again greater than the partial pressure of oxygen in the tissues. For carbon dioxide the exact reverse holds good. Therefore there is always a diffusion of oxygen from the air to the tissues, and a corresponding diffusion of carbon dioxide from the tissues to the atmosphere.

Now if we can supply a continuous stream of air under pressure at the lower end of the trachea, the diffusion of oxygen will go on without respiratory movements. A catheter about half the size of the glottis is passed down the trachea until it reaches the bifurcation. The catheter is connected with a forced draught of air from 10 to 40 mm. Hg pressure, the air having previously been warmed, moistened, and etherized. The excess of air escapes between the catheter and the glottis.

In the experimental surgical laboratories, principally in America, almost incredible operations have been done on dogs by Carrel, Guthrie, Crile, Meltzer and others by using this method of intratracheal insufflation of etherized air—operations such as the complete removal of one or more lobes of the lung, complete division and suture of the thoracic oesophagus, and complete division and suture of the transverse arch of the aorta. To enable the latter to be done a temporary anastomosis was established between the left ventricle and descending aorta, in order to keep the nerve cells of the brain and cord alive during the stitching.

It is to Elsberg of New York that we owe the first apparatus for use on the human subject, and the instrument here illustrated is the Elsberg model, with some slight modifications of my own.

Though invented primarily for use in thoracic surgery and to displace the positive and negative pressure cabinets of Sauerbruch and Meyer, in practice it has been found so useful in other respects that, as a means of maintaining anaesthesia in difficult cases, it possesses advantages found in no other method. Its advantages are:

1. That the current of air at the glottis is outwards. The air enters through the catheter and escapes between the catheter and the opening of the glottis. Against this current no blood, mucus, or vomit can possibly find its way into the air passages, so that in difficult mouth, tongue, jaw, and goitre operations, or cases of intestinal obstruction, there is not the slightest danger of any foreign material gaining entrance to the lungs.

2. That in mouth and neck operations the surgeon is in no way interfered with by the hands of the anaesthetist, for a tube alone connects the patient with the apparatus, which may therefore be placed at any distance from the operating table.

3. That in those diseases where respiration fails life can still be maintained. It is possible to give a dog twice the lethal dose of strychnine and yet keep him alive in spite of the spasm of the respiratory muscles. In a case of myasthenia gravis, reported by Elsberg, where respiration failed on account of paralysis of the respiratory muscles, a patient was kept alive for some twelve hours after all normal respiratory movements had ceased. There is no doubt that in the future, whenever available, this method will replace the present system of artificial respiration by manual means, especially in cases of poisoning and tetanus.

4. That chest surgery now becomes practicable in the absence of either a Sauerbruch or Meyer cabinet.

The apparatus consists of a ½-horse power electric motor, A, actuating a blower, B, rotating it about 500 times per minute. This blower is a "Hypress" blower, size 00, and is really a vacuum cleaner rotating the wrong way. It produces a blast, not a vacuum. The air from the blower is then passed into the chamber C, where it is freed from its oil and dust by being passed through water. The air is then carried on to the ether chamber, D. This is what motorists would call a surface carburettor. By means of the three taps gearing to one another and connected with the pointer, the air either passes entirely over the surface of the ether when the pointer is at "full," or misses the ether altogether when the pointer is at "0." At any intermediate position only a portion of the air is etherized, the amount depending on the position of the pointer. As a rule, to maintain anaesthesia it should be placed about half-way.

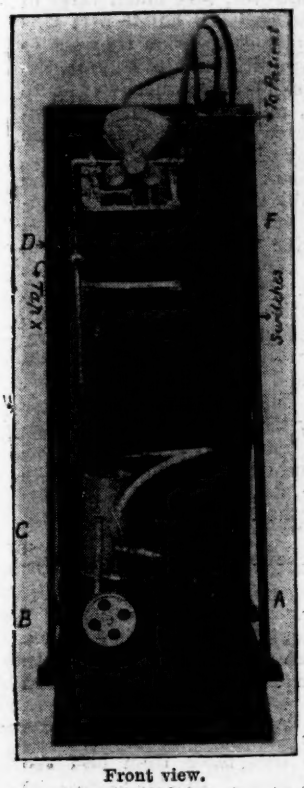
The etherized air from D is warmed and moistened by passing through a coil of lead tubing placed in warm water and containing in the circuit a moistened piece of gauze. This chamber E is kept warm by means of a small electric "hot-plate" controlled by a switch. A manometer and a thermometer are now placed in the

*Read at the Liverpool Medical Institution, April 25th, 1912.

circuit, so that it is possible to see at what pressure and temperature the air enters the lungs.

The patient having been anaesthetized in the ordinary way, the tracheal catheter is passed. This is an ordinary coudé catheter of a size from 18 to 26 French. It should be half the diameter of the glottis, and for adult males a No. 22 is suitable.

This catheter is passed by direct laryngoscopy, a Chevalier Jackson's instrument, with distal illumination, being used. It is done in a few seconds. If the catheter is too soft a stylet makes its introduction easy. On the catheter are two marks, 12 and 26 cm. from the tip, for it has been found that these distances are the usual distances to the glottis and bifurcation of the trachea respectively from the incisor teeth. As a rule the distance to the glottis is just about half that to the bifurcation, so that if the distance to the glottis is noted the catheter must be passed just as much again in order that its tip should be in the right place. In order to prevent the catheter from being bitten it must be protected by a "bit." I have found that a Smith's gag without the tongue depressor very useful for this purpose, and to prevent the catheter from being coughed out it is attached to this gag by a small bulldog forceps which does not compress its lumen. The catheter is now connected with the current of air and the ether turned on. In order to maintain efficient surgical anaesthesia, I find that the pointer should be about half way.



Front view.

The reflex of breathing still goes on, but the movements are light. In deep anaesthesia they are sometimes very light; still, the internal respiration goes on, and the patient's colour remains a healthy pink. The depth of the anaesthesia is judged by the corneal reflex and the reaction to light.

As soon as the operation is finished pure air is turned on, and the ether, so to speak, flushed out. This flushing with air is said by most observers to make the recovery time from anaesthesia very short, and in some of our cases the patients were able to talk rationally within half an hour after the end of the operation.

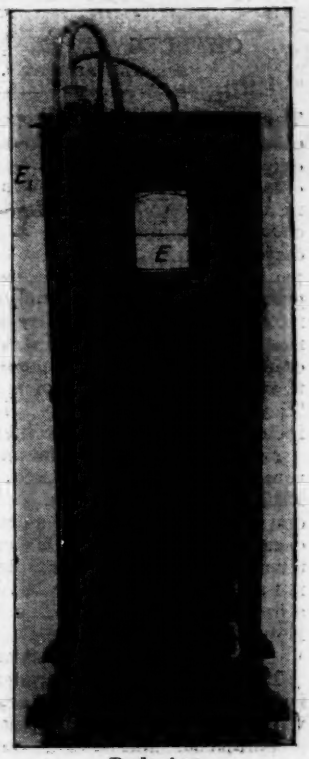
If there is any cyanosis it means that the catheter is too large, and this is generally also shown by the fact that the manometer reading is too high. A smaller tube will suffice to put this right. As a rule the manometer reading should be from 10 to 40 mm. Hg. This pressure of course should not be absolutely continuous, for this would lead to embarrassment of the heart by not allowing the respiratory pump action on the venous circulation in the thorax, so the anaesthetist three or four times a minute allows the pressure to drop to zero by opening the tap x. In Dr. Janeway's instrument, which I had the pleasure of seeing in New York, this safety valve action is automatically controlled so as to be performed a definite number of times per minute.

The working of the apparatus is very simple. The anaesthetist watches the reflexes and alters his pointer accordingly, whilst two or three times a minute he opens the safety tap to reduce the pressure to zero. If the temperature of the air entering the lungs drops or rises, then a switch operating the electric heater will put it right again, and if the pressure is not correct, then the mere turning of the tap on the blower will raise or lower the pressure at will.

In a case of malignant disease of the floor of the mouth, in which 4 in. of the lower jaw had to be removed, the anaesthesia by this apparatus was perfect and uninterrupted, and not the slightest anxiety was felt about blood getting into the pharynx.

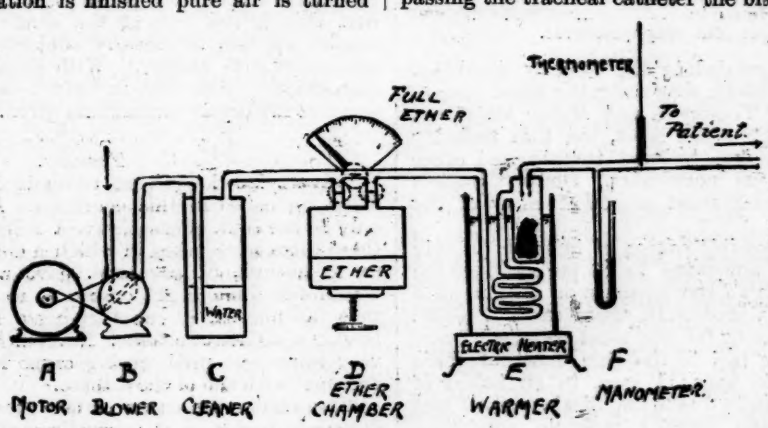
In goitre operations it answers admirably. Rarely, if ever, under open ether are these operations unattended by some cyanosis, especially when the trachea is interfered with, but in the two goitre operations in which I have used this apparatus the colour of the patients was excellent during the whole operation.

In both these cases of goitre there was huskiness for a day or two after the operation, but on no other occasion has this after-effect been observed.



Back view.

I was able to contrast the effect of open ether with the insufflation method in the case of an old man with enlarged prostate. After the preliminary suprapubic cystotomy performed under open ether the patient had bronchitis for some five days, whereas after the second operation, a much longer procedure, performed with insufflation, not the slightest sign of bronchitis was noticeable. Indeed, on passing the tracheal catheter the blast of air cleansed his air passages by blowing a large quantity of sputum into his mouth.



In abdominal operations and in hernia the relaxation of the abdominal muscles is complete, and the reaction time is quicker—that is, if the surgeon wishes the abdominal walls more lax, this is procured in a few seconds by turning on more ether.

So far as a small experience of 25 cases can go, the result of using this apparatus is that patients recover more quickly, the after-effects are lessened, vomiting has only been noticed once, and from the surgeon's point of view the anaesthesia is perfect. Further, the anaesthetist has a greater sense of security, for if at any time he thinks that artificial respiration may be necessary, he has the apparatus ready to hand, and has merely to turn the pointer from "ether" to "air."

My thanks are due to Dr. Janeway, of New York, for

procuring me the "hypress" blower, and for many valuable hints; to Mr. Nesbitt, of the Thompson Yates Laboratories, for making my instrument; and to my colleagues, Messrs. Thelwall Thomas, Bickersteth, Litler Jones, F. Jeans, and H. Woolfenden, for allowing me to anaesthetize some of their patients.

ACUTE EPIPHYSITIS.

BY

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THE cases of which I propose to speak are not strictly cases of acute epiphysitis, but cases of acute juxta-epiphyseal diaphysitis—that is to say, cases of acute osteomyelitis due to pyogenic organisms, and commencing in the soft vascular line where new bone is replacing cartilage, a line which is anatomically part of the diaphysis.

I have chosen this title because, in the first place, this group of cases forms a definite clinical entity quite distinct from the other groups of osteomyelitis, with which I do not intend to deal, and secondly, because acute juxta-epiphyseal diaphysitis, the only accurate name I know for the disease, is too much of a mouthful for everyday use. The term "osteomyelitis" is too vague, for, though it includes this group, it also includes many other conditions.

Acute pyogenic inflammation of the epiphysis itself is so rare that it may be neglected. In the ten years 1901 to 1910 (inclusive) there is, judging from the notes, only one case that might have started in the epiphysis (and this case is doubtful) out of 309 cases of acute epiphysitis. The term, then, though unscientific, is convenient, and in using it I am following the late Mr. Barnard,[1] who in 1903 read a paper under the title "The Relation of Trauma to Acute Epiphysitis."

CAUSATION.

The exciting cause is a pyogenic organism. The organism is usually *Staphylococcus aureus*. Trendel,[2] when dealing with osteomyelitis in general, found staphylococcus, streptococcus, and pneumococcus. In this series we find corresponding results, as follows:

Bacteriological Results in 49 Recent Cases.

	Cases.
Staphylococcus was found in	38
Type not stated ,, ...	5
Staphylococcus aureus ,, ...	28
Staphylococcus citreus ,, ...	2
Staphylococcus albus ,, ...	3
Streptococcus ,, ...	7
Mixed streptococcus and staphylococcus was found in	2
Pneumococcus was found in	2

That is, 77 per cent. staphylococcal.

The organisms are carried to the bone by the blood stream. The route by which they reach the blood stream is somewhat debated. Thompson and Miles[3] state that they may get in through septic sores, but that probably they are more often due to sore throats and other infections of the mucous membranes. Dolbey[4] regards sore throats as the commonest source of entry of the organism.

I found a note of a possible source of infection in only 44 cases, but these 44 amounted to 79 per cent. of the cases where any note as to the presence or absence of a source of infection was made. In these cases a septic condition of the skin was by far the most common; there were 36 cases of septic foci in the skin, most of them septic sores, 1 a septic burn; 1 case, in an infant of 2 weeks old, was apparently due to umbilical sepsis; 1 was a boil on the neck, and another multiple superficial abscesses. The other foci found were 2 cases of whitlow, 3 of otorrhoea, and 6 of tonsillitis; but 3 of these latter had also skin sepsis.

It would appear, therefore, that the organisms usually reach the blood by the skin—a conclusion borne out by the predominance of staphylococci as the causative organisms, for if the tonsils were the common site of entrance streptococcal cases should predominate, for they are the organisms usually found in cases of septic tonsillitis. Again, if the intestinal mucosa be the site of entry, why is the *B. coli communis* so rarely the causative organism? Moreover, acute epiphysitis is very much more common in the poorer classes than in the well-to-do. This is usually explained by saying that the better classes are better nourished; but the disease usually attacks healthy-looking, well-nourished children. The children of the better classes play, and are probably nearly as much exposed to injury as the children of the poor; so that the trauma will not, I think, explain this greater frequency in the poor. Septic sores are, however, very much rarer in the well-to-do classes, and, moreover, if children of this class have a more serious septic skin lesion they are so nursed and coddled that they run little risk of trauma, the great predisposing cause. This greater frequency of acute epiphysitis in the poor, then, may be regarded as confirmatory evidence that the source of infection is a septic skin lesion in the great majority of cases.

The first theory that occurs to explain why the organisms in the blood should settle in the juxta-epiphyseal region of a bone and set up acute inflammation there, is that the disease is due to a specific organism which has a predilection for newly formed bone. This view Dolbey[4] adopted in 1906. It is, however, negatived by the fact that several varieties of organism are found, varying presumably with the source of infection. It may be objected that in the cases where organisms other than *Staphylococcus aureus* are found the disease is atypical, and does not truly belong to this group. This is, however, not the case; for in all my streptococcal and pneumococcal cases the notes would lead one to suppose that the cases were quite typical and genuine. There remains one other possibility—that the staphylococci and streptococci are secondary infections, the real causative organism having so far eluded us.

If we examine the known etiological facts, we find as follows:

Sex.

The disease is more common in males than in females. Thompson and Miles[3] give the proportion as 3 to 1. In the series under consideration there were 217 males and 92 females, or 7 to 3.

Age

Trendel[2] and Moore[5] state that more than half the cases occur between 13 and 17 years. In the cases here considered, 70 per cent. occur between 7 and 17. The age incidence is quite different in the two sexes, a point I shall have to speak of again in relation to trauma. It is often stated that in young infants the disease occurs chiefly in congenital syphilitics. I have, however, found little evidence that this is so, and take the view that congenital syphilis is a negligible factor in the etiology of this condition. Albee[6] states that the scrofulous and rheumatic dispositions predispose. I have already stated that this is not true of the scrofulous, as the disease usually appears in healthy subjects, and here I am in agreement with Dolbey.[4] With regard to the rheumatic disposition, I find that in only 3 cases out of 309 is a previous history of rheumatism given.

Trauma.

Trauma has long been recognized as the chief predisposing cause in this condition. I find that although only 30 per cent. of cases gave a history of trauma, if only those cases were taken in which a definite note was made as to trauma, 61 per cent. gave a history of trauma. Trauma of some slight degree is so common in children that the number of cases giving a history of trauma is largely a matter of chance. Nevertheless, that trauma is a very important predisposing cause is shown by the sex and age incidence of the disease.

If trauma be the cause of the greater frequency of the disease in males, as is generally stated, the difference in sex incidence should be *nil* up to 3 years old, up to which age both sexes are equally liable to trauma, and should become more marked as the cases grow older. This is so; for in ten years at this hospital there were 53 cases under 3 years of age, and of these 27 were males and 26 females. Again, boys are most liable to trauma between 7 and 17, and 70 per cent. of cases in them occurred between these ages. Whereas in girls, 69 per cent. of cases occurred before 10 years of age. So that in both sexes the disease is most common when trauma is most common.

Again, if we take the incidence of the disease in limbs we get presumptive evidence of trauma; for in the first few years of life, when the child is practically a quadruped, crawling and falling about on arms and legs equally, the upper limb is affected twenty-five and the lower twenty-eight times, whereas in the later years the lower limbs provide the great majority of cases. The tibia and femur alone giving 77 per cent. of the cases between twelve and seventeen.

Admitting, then, that trauma is an important etiological factor, how does it act?

Ollier[7] pointed out that the injuries to the epiphysis may be divided into para-epiphyseal strains, where the epiphysis is partially separated, and para-epiphyseal sprains, where the epiphysis is completely separated, but not displaced, and the well-known condition of separated epiphysis, where there is also displacement. As he pointed out, any trauma (for example, a twist) is most likely to affect chiefly the weakest part of the limb—namely, the soft, newly-formed bone. The epiphysis being injured there is a little effusion of blood, a little inflammatory reaction with stasis of the blood stream, and any organisms circulating in the blood and reaching such a spot will have time to grow and multiply and set up an acute inflammation.

The way in which trauma acts was very lucidly explained by Mr. Barnard[1] in his paper in 1903. He pointed out the gradations of the condition, from the simple para-epiphyseal sprain or strain, with its painful spot, but no deformity, and its aching for a few days, but no infection and no pyrexia, to the similar condition with mild infection (or high resistance on the patient's part) with its symptoms slightly more marked, with pyrexia for a few days, and lastly the typical acute epiphysitis.

The first group of cases we all see, but as a rule they are not recognized unless there is some slight displacement, as in Schaltter's disease. The second group we also often see. The cases which come in as "? epiphysitis," which are watched, and which recover without operative interference, and are then diagnosed as mon-articular rheumatism, nearly all, I believe, belong to this group. That this is so is strongly suggested by cases such as the following:

A boy, aged 8, knocked his ankle in July, and had slight pain in it, which made him limp. He was seen at two other hospitals, and the ankle was painted with iodine. In December the ankle began to be painful and swollen, and he came to the London Hospital, and was admitted under Mr. Milne, who opened the lower end of his tibia, and found a localized abscess. The pus from this abscess yielded staphylococci on cultivation.

Nor is this case an isolated example. I have in the course of looking up the notes of acute cases accidentally come across the notes of two cases almost identical with that just quoted.

Trauma, then, will explain why acute epiphysitis always attacks the juxta-epiphyseal regions of bones without any necessity for a specific organism.

It would seem, however, that all cases of acute epiphysitis cannot be put down to trauma. If trauma be such an important causal agent, why do we never see a case of acute epiphysitis following on a separated epiphysis? There were no cases in my 309, so far as I could tell from the notes. Mr. Barnard met this objection by pointing out that acute epiphysitis does, though very rarely, occur in separated epiphyses. Now we see all the cases of separated epiphysis, but only a few of the cases of sprains and strains. In other words, acute epiphysitis is a complication of separated epiphysis, as of any other trauma, but separated epiphysis is so much less common than minor degrees of trauma, that, as one would expect, acute epiphysitis is much less common in the former group.

That this explanation is entirely satisfactory is very doubtful; for if trauma were the all-important cause, then the common sites of acute epiphysitis and of separated epiphysis should coincide. They do not, for it is found that acute epiphysitis is most common in the upper end of the tibia and lower end of the femur; whereas separated epiphysis is most common in the upper end of the femur. Acute epiphysitis is more common in the upper end of the humerus, whereas the lower is that most often separated. In the radius the lower epiphysis is both most often separated and most often inflamed; but separated epiphysis is rare in the radius as compared with the dislocated elbow, which for anatomical reasons takes the place of the separated epiphysis of radius and ulna. Moreover, if cases of over 16 be taken, an age when one would expect all the patients to remember any trauma severe enough to injure an epiphysis, the percentage of history of injury rises, but only up to 65 per cent.

Both Ollier and Barnard admitted that all cases are not due to trauma. Ollier suggested "chill," and Mr. Barnard lowered resistance in the patient, as the other causal factor. Albee[6] states that:

Spontaneous inflammations of the bones occupy seats of election, corresponding to the points of greatest activity of physiological development. The morbid disposition is, all other things being equal, in direct ratio to the activity of proliferation of anatomical elements.

If we take the lower limb we find the disease most common at the upper epiphysis of the tibia, and the lower of the femur, the most active epiphyses. If we take the upper limb we find the disease most common in the upper epiphysis of the humerus, again the most active epiphysis.

Thompson and Miles attribute the incidence of acute inflammation at the ends of bones, in part at least, to the arrangement of the vessels. The arteries run in the long axis of the bone and end in capillary loops just under the epiphyseal cartilage. It is, however, hard to see why micro-organisms should stick in these loops, and, moreover, this does not account for the disease being limited to the growing age, for the arteries and capillaries retain very much the same arrangement in adult life.

In growing bone vessels spring from these loops and grow vertically upward for a space, then join to form fresh loops. These vessels must at some period form blind alleys into which organisms may easily be driven and entrapped. This is, I believe, the reason why acute inflammation always attacks the juxta-epiphyseal line. The bigger the epiphysis and the more active the growth the more of these bacterial traps there will be and the greater the liability to acute epiphysitis, which explains largely the bone incidence. Now organisms would in this way be entrapped only for a short time and when the loop is completed be driven on again. Unless the organisms be numerous or virulent the patient escapes epiphysitis; but if trauma occurs, with perhaps some effusion of blood and stasis of the blood stream, even a single organism, perhaps, placed at such an advantage may grow and multiply and cause a fulminating disease. It is noticeable that in the bones more rarely affected there is almost always a history of trauma. The disease, then, may be due to any pyogenic organism (generally the staphylococcus, because the site of entry is usually the skin) which settles in the juxta-epiphyseal line for purely mechanical reasons dependent on the anatomy of growing bone. Trauma is an important predisposing cause, but it is by no means essential.

Diagnosis.

There is no need to go fully into the clinical aspect of these cases, every one is so familiar with them. The sudden onset of pain near one joint, the bright eyes and flushed face, the rigors (or, often in babies, fits), the delirium at night, and occasional vomiting, are all familiar features.

The difficulties in diagnosis depend upon the condition of the patient when seen. If there is pus under the periosteum in any large amount, there will be a red, tender, fluctuating swelling. Here the condition has to be distinguished from cellulitis and abscess. If the patient is very ill, with a history of delirium and rigors, or if there is fluid (not necessarily pus) in one of the neighbouring joints, the diagnosis of acute epiphysitis is fairly safe. Very often, however, it is impossible to make a certain diagnosis until the abscess is opened, when the introduction of the finger and the feeling of bare bone immediately settles the diagnosis.

Whether this superficial swelling, caused by pus under the periosteum, will appear early or late depends on whether the initial lesion is peripheral or central. Mr. Barnard aptly compared the site of the initial lesion to the positions on a target. If the initial focus be in the position known as "an outer," the periosteum will be early and chiefly affected; if a "bull's-eye," the early spread will be down the Howship's vertical lacunae, and the medulla will be early and chiefly affected; if a

"magpie," the spread will be about equally distributed between medulla and periosteum. The compact bone is of course affected in all these positions, but owing to its greater density spread does not occur so rapidly through it.

Even when there is no pus under the periosteum, only increased vascularity and thickening, there may be oedema and redness over the affected part. The fluid in the neighbouring joints is often clear, and proves sterile on cultivation.

Even when the joint is full of pus, as it often is, this is usually a secondary infection of a clear effusion of this kind. Sometimes it is due to direct spread, but this is rare, because the thick, comparatively avascular epiphysis forms a formidable barrier to even the most virulent organism; spread under the periosteum, and so under the ligaments into the joint, though more common, is rare, because the periosteum of the epiphysis is very firmly bound down. Direct spread through the epiphysis is only noted twice (apart from the hip) in this series. In the hip-joint, however, the epiphyseal line being within the joint, the pus usually bursts early into the joint. This epiphysis, too, is one often separated by the morbid changes in acute epiphysitis.

If pus be found in the joint of a child, unless there is some obvious mode of infection, it is nearly always due to acute epiphysitis.

We now come to the more difficult cases to diagnose, those in which there is no obvious inflammatory swelling. They are usually mistaken for acute rheumatism. As a rule, the history will put one on the right track. The pain usually started in one joint, and on close inquiry not in but near one joint, and has remained there since. There is often a history of delirium at night, and perhaps of rigors. Where there is a history of delirium and rigors be very loth to diagnose acute rheumatism. Where the pain is always in one joint, and one joint only, be very careful in the search for evidence of acute epiphysitis. Search for a tender spot in the bone near the epiphysis. Sometimes a little discoloured patch, like a bruise, or occasionally like a patch of erythema nodosum, will point to the tender spot.

An early case of acute epiphysitis, especially if in a deep-seated bone, may be very difficult to diagnose; but this difficulty becomes tenfold when (as happened in several cases of this series) the disease has started with pains in two or three or even many joints before finally settling in one.

To meet these cases of great difficulty what assistance have we? A leucocyte count may help us, for in acute epiphysitis it is usually high (20,000 to 30,000 Albee);[6] but in acute rheumatism there is also leucocytosis (the average being 16,000, Cabot).[8] A blood count will often fail us, for in the very acutest cases leucocytosis may be absent, and moreover in acute rheumatism, especially if sodium salicylate has been given, it may be high enough to be confused with that found in the typical acute epiphysitis. The leucocytosis, then, is not to be trusted.

Sodium salicylate usually brings the temperature down, if only for a few hours, in acute epiphysitis, and so may lead to a false sense of security, and the waste of an invaluable day.

Radiography in most cases does not help. In this series where a note of a radiograph was made nothing abnormal could be seen. Ironside Bruce[9] states that "in early stages of osteomyelitis no abnormality of outline or structure can be made out." In mild cases where the focus is early localized, a radiograph may show this focus. Of course, in chronic cases, and in cases which have been progressing for some time, radiography is invaluable.

Rheumatism is not the only thing for which acute epiphysitis may be mistaken. When house-surgeon I insisted on the full duty house-physician taking in a case as "scurvy rickets" which I afterwards had the mortification of taking over, when it was transferred to Mr. Openshaw's care, with several ounces of pus in the medulla and under the periosteum of its radius. When a dresser I well remember a case of Mr. Openshaw of acute epiphysitis of the iliac crest which closely simulated an appendix abscess. He was a boy of 13, taken suddenly ill with pain in the right iliac fossa and admitted with a lump there and a distended abdomen; but he had a history of a fall. He was delirious and he had not been sick (though these cases often are), and he was correctly diagnosed.

Amongst the notes I find a case admitted moribund, which for three weeks had been treated as "enteric fever." It was to this type of case with its high fever and low muttering delirium, that Chaissagnac gave the name of "typhus of the bone."

Occasionally the diagnosis of the position of the lesion is very difficult; this is especially the case when the acetabulum is attacked. A careful history and close examination are the only trustworthy guides to diagnosis.

PROGNOSIS.

The mortality is high—higher than that of enteric fever or pneumonia; much higher than that of acute appendicitis. It was in the ten years 1901 to 1910, 34.6 per cent.

The majority of the cases die from pyaemia, with such lesions as purulent pericarditis, empyema, abscesses in lungs, myocardium, and kidneys, and not infrequently acute endocarditis. Abscesses may occur anywhere, but especially tend to attack other bones. This, as Mr. Barnard pointed out, is probably due to the organisms developing a taste for the "soil" on which they have been growing, or perhaps to the mechanical conditions found in growing bone, to which attention has already been called. Comparatively few cases die of pure toxaemia without *post-mortem* evidence of pyaemic spread.

Secondary haemorrhage accounts for a few deaths. Two out of five cases of severe secondary haemorrhage met with in this series died, in spite of prompt amputation. In most cases the secondary haemorrhage is from the popliteal or a large branch in acute epiphysitis of the lower end of the femur.

Even if the patient escape with his life the outlook is not very bright. The average stay in the hospital is twelve weeks, and few cases are completely healed when discharged. They generally have a discharging sinus for months—at least 49 of the cases of this series were readmitted for sequestrotomy in periods varying from a few months to six years. A case was admitted under Mr. Openshaw last summer with chronic osteomyelitis of the femur, which dated back to an acute epiphysitis thirty-one years ago, and which had been giving trouble on and off since, in spite of many operations in various hospitals. Of nine cases which I have been able to see or hear of, at periods varying from one and a half to nine years after, only two were free from symptoms; but this is misleading, as in several cases the symptoms were the cause of my seeing them. The case of longest duration I heard of accidentally from Westminster Hospital nine years after, and he still had a sinus. This long-continued suppuration, with its risk of lardaceous disease, is not all, for many cases after a long interval of apparent cure suddenly develop signs of Brodie's abscess. I have come across the notes of cases fifteen, twenty-three, and twenty-six years after the primary onset.

In giving a prognosis, the extent and duration of the disease and the general condition of the patient are the chief guides. The age also helps:

The mortality before 1 year is 70 per cent.
The mortality from 1 year to 6 years is 41 per cent.
The mortality from 6 years to 11 years is 30 per cent.
The mortality from 11 years to 20 years is 29 per cent.

The mortality varies also with the organism, being only 14 per cent. in streptococcal cases.

The presence of albuminuria—a condition met with in 13 of the 55 cases (23 per cent.) in which I noted the condition of the urine—is of grave significance. More than half the cases in which it was found died; only one-fifth of these cases in which it was not found died. This albuminuria is apparently due to a toxic nephritis rather than to pyaemic abscesses in the kidney.

TREATMENT.

"Many lives and limbs have been lost because the surgeon was content with a diagnosis of periostitis and an incision through the periosteum," so says J. E. Moore, an American surgeon, and it is very true.

In every case where the pus is found under the periosteum in a child, unless the cause of that periostitis is very definitely known, the compact bone should be chiselled away and the medulla explored. If the medulla is not obviously diseased, the surgeon may be content

TABLES SHOWING AGE, SEX, AND BONE INCIDENCE IN 298 CASES OF ACUTE EPIPHYSITIS.

Females.

Age:	0-1.	1-2.	2-3.	3-4.	4-5.	5-6.	6-7.	7-8.	8-9.	9-10.	10-11.	11-12.	12-14.	14-16.	16-18.	18-20.	Total.	Died.
Tibiae: Total	2	—	4	4	—	—	2	3	5	1	2	4	1	1	2	—	31	6
„ Upper end	1	—	1	3	—	—	—	3	2	—	—	2	—	—	2	—	14	4
„ Lower end	1	—	2	1	—	—	2	—	1	1	1	1	1	1	—	—	12	1
Fibula: Upper end	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1	0
„ Lower end	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Femur: Total	3	3	1	3	2	1	—	—	2	—	—	2	3	3	1	—	24	10
„ Upper end	—	—	—	—	1	1	—	—	—	—	—	—	—	1	—	—	3	3
„ Head	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	1
„ Great trochanter	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ Lower end	2	3	1	3	1	—	—	—	1	—	—	2	2	2	1	—	18	7
Ilium	—	—	—	1	—	—	1	—	—	—	—	—	—	—	1	—	3	1
Os calcis	1	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	3	1
Astragalus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Metatarsal	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1	0
Phalanx	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Clavicle	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Scapula	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	0
Humerus: Upper end	3	—	2	—	—	—	—	—	1	—	—	—	3	1	—	—	10	4
„ Lower end	1	1	1	—	—	—	—	1	—	—	—	—	—	—	—	—	4	1
Radius: Upper end	1	—	—	—	—	—	—	1	—	—	—	—	—	—	1	—	3	2
„ Lower end	1	1	—	—	—	—	—	1	—	—	—	—	—	—	—	1	4	1
Ulna: Upper end	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	0
„ Lower end	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	13	5	8	9	2	3	3	6	8	1	3	6	8	6	5	1	87	27
Deaths	8	2	1	5	1	1	0	2	2	0	0	0	2	2	1	0		

Males.

Age:	0-1.	1-2.	2-3.	3-4.	4-5.	5-6.	6-7.	7-8.	8-9.	9-10.	10-11.	11-12.	12-14.	14-16.	16-18.	18-20.	Total.	Died.
Tibiae: Total	3	5	3	2	1	8	3	3	2	7	6	3	20	21	10	1	98	43
„ Upper end	1	1	2	1	—	5	2	2	2	4	3	2	11	15	7	1	59	29
„ Lower end	1	3	1	—	1	4	1	1	—	2	2	—	8	3	3	—	29	11
Fibula: Upper end	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	2	0
„ Lower end	—	—	—	1	—	—	—	—	—	—	—	1	—	—	2	—	4	0
Femur: Total	1	1	—	4	1	3	1	5	5	4	1	3	8	9	6	3	53	12
„ Upper end	1	—	—	1	—	—	—	3	3	1	—	1	1	4	3	1	19	5
„ Head	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	2	2
„ Great trochanter	—	—	—	—	—	—	—	—	—	—	—	—	1	2	2	—	5	0
„ Lower end	—	1	—	2	1	1	1	2	2	3	1	2	6	5	3	2	32	6
Ilium	—	—	—	—	—	—	—	1	—	1	1	2	1	2	3	0	11	5
Os calcis	—	—	1	—	—	—	—	—	—	1	—	1	1	1	—	—	5	4
Astragalus	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	2	1
Metatarsal	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	2	1
Phalanx	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	1
Clavicle	—	1	—	—	—	—	—	1	2	—	—	1	1	—	—	—	6	3
Scapula	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Humerus: Upper end	—	2	3	—	—	—	—	—	—	—	—	—	—	3	1	2	11	6
„ Lower end	—	1	1	1	—	—	—	—	—	—	—	—	2	—	—	—	5	1
Radius: Upper end	—	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	2	0
„ Lower end	—	1	1	1	—	—	—	—	—	—	—	—	1	1	1	—	6	0
Ulna: Upper end	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	2	1
„ Lower end	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Total	6	12	9	9	2	11	4	10	11	12	9	12	37	38	24	6	211	79
Deaths	5	4	5	3	0	7	2	3	5	3	5	1	13	12	8	3		

N.B.—The figures in the bottom line appear at first sight to be incorrect, because several cases come under a general as well as a particular heading; care has been taken to count these figures only once.

with removing a large window in the compact bone, and this window should be as wide as the bone in question, but the medulla should not be gouged out. If the medulla is scraped out the endosteal membrane is removed, and the compact bone, already stripped of its periosteal blood supply, is more likely to die and form a sequestrum (Nichols). If the medulla is diseased, then the compact bone must be removed as far along the shaft as the disease has spread and a little further, and the diseased medulla gouged out. Where the medulla is gouged no overhanging ledges of compact bone must be left: they impede dressing, and usually form sequestra. In the lower end of the femur the periosteum is nearly always stripped off the posterior wall, and this posterior wall should be removed if sequestra are to be avoided.

Where the shaft is found completely, or almost completely, stripped of periosteum, a primary diaphysectomy may be done, or the whole medulla must be widely exposed and gouged out. If the patient's general condition is bad, a diaphysectomy is preferable, as it can be more rapidly done. If, on the other hand, the patient's condition will stand it, the chiselling away of one aspect of the entire shaft with gouging out of the medulla will leave enough compact bone to act as a splint. When the periosteum has formed enough bone to retain a good shape, a secondary diaphysectomy should be done. If the patient's condition is very critical, probably a primary amputation is the most rapid efficient operation, and should be done. It should, however, seldom be necessary.

In this series primary amputation was performed three times, with one death. In the case which died the toe was amputated for osteomyelitis, and at the *post-mortem* examination osteomyelitis of the ileum was found, which was probably primary, osteomyelitis of the phalanges being very rarely primary, though often secondary. This case also had general pyaemia with purulent pericarditis.

If, after efficient initial treatment, the case continues to go downhill, secondary diaphysectomy is worth trying, and if this fails, secondary amputation should be done.

The existence of pyaemic abscesses in either bones or soft tissues is no contraindication to amputation, as in these cases the patient often begins to get the better of his pyaemic foci as soon as the primary focus is removed by amputation. Secondary diaphysectomy sometimes gives very good results, as in a case reported by Scudder,[10] and in several cases here. It is well worth a trial before proceeding to amputation, and may save a useful, though often unsightly, limb. After diaphysectomy, the periosteum should be stitched so as to draw it loosely into position over gauze packing. If, as is usually recommended, it be sewn to the skin, the newly formed bone when it grows is apt to be four or five times its normal width, as a result of the spreading out of the periosteum when the skin retracts.

The chief hope of reducing the mortality centres in early and radical operation. Possibly in the future vaccines may be instrumental in reducing the mortality. In this series only a few cases were treated with vaccines, but the results in these few cases have been anything but encouraging:

Mortality.

General mortality of the series ...	34.6 per cent.
With vaccines, 7 deaths in 16 cases, or a mortality of	43.7 ,,

If the cases in which the bone was thoroughly opened up from the first be considered separately, one finds:

Group I.

Without vaccines, 39 deaths in 123 cases, or 31.7 per cent. mortality.

With vaccines, 2 deaths in 6 cases, or 33 per cent. mortality.

If the cases in which at first only the periosteum was opened be taken, one finds:

Group II.

Without vaccines, 50 deaths in 139 cases, or 35.9 per cent. mortality.

With vaccines, 4 deaths in 7 cases, or 57 per cent. mortality.

That the mortality is not higher in the whole of Group II. is due to the fact that in many cases the bone was opened up at a second operation. Possibly the very high mortality of cases treated with vaccines in this group may be due to vaccine treatment having been allowed to replace, instead of supplementing, the more important surgical measures

In conclusion, I must express my thanks to the surgical staff of the London Hospital for their permission to use the notes from which these figures have been compiled. To Mr. Walton and Mr. Benians I owe my thanks for many suggestions.

The tables on the previous page show the bone, age, and sex incidence in 298 cases.

REFERENCES.

[1] H. L. Barnard, *London Hospital Gazette*, February, 1903. [2] Trendel, quoted by Albee, *N. Y. Med. Journ.*, lxxxvii, 1077, 1909. [3] Thompson and Miles, *Manual of Surgery*. [4] Dolbey, *London Hospital Gazette*, Clinical Supplement, 1906. [5] J. E. Moore, *N. Y. Med. Journ.*, xci, 431, 1910. [6] Albee, *N. Y. Med. Journ.*, lxxxvii, 1077, 1909. [7] Ollier, *International Encyclopaedia of Surgery*. [8] Cabot, *Clinical Examination of the Blood*, 1897. [9] Ironside Bruce, *System of Surgery*, edited by Choyce, vol. i. [10] Scudder, *Surg., Gynec., and Obstet.*, Chicago, vi, 169, 1908.

APPENDICITIS IN PRIVATE AND PUBLIC HOSPITALS FOR THE INSANE.*

BY

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My excuse for a communication on this physical affection is an attempt to prove, from its rarity in private and public asylums for England, Wales, Scotland, and Ireland, that it is preventable. In the ten years from 1902 to 1911 there are recorded 75 deaths from appendicitis, typhlitis, or perityphlitis, ascertained in the majority of cases by *post-mortem* examination, among the insane detained in all the asylums of England and Wales. It would be instructive to know how many of the 75 were affected before admission into the respective asylums, and how many could have been saved by operation. For the statement that appendicitis is a rare malady in private and public hospitals I have the support of several well-known mental specialists; not only do these give me their assistance, but moreover I have the help of the pathologist to the London County Asylum at Claybury, who states, "I do not believe there has been a single case of appendicitis on the *post-mortem* table at Claybury since I have been pathologist. Consequently, in more than 2,000 *post-mortem* examinations there has been no case." The comparison of the Claybury hospital for the insane with the teaching hospitals of St. Bartholomew's and Guy's for the sane is reliable. For instance, at St. Bartholomew's Hospital 1,645 *post-mortem* examinations were made between 1909 and 1911, and 69 were designated cases of appendicitis. At Guy's Hospital in 1900, of the first 500 *post-mortem* examinations 12 were recorded as appendix cases. I find that at the same hospital there were 8,588 admissions in 1910, and of these admissions 306 were subjects of appendicitis, 187 being under the care of surgeons, while 119 were under the care of physicians. In connexion with the statistical tables from the Lunacy Boards of Scotland, it is believed that formerly death from appendicitis was usually returned as death from peritonitis, but these diseases had no separate heading in the boards' tables of causes of death, and are not yet separately notified. If a case of death from appendicitis were returned it would be placed in the table under diseases of the digestive system; but it has been ascertained that no death in a Scottish asylum has been returned during the past five years as due to appendicitis. In the report of the inspectors of lunatics for Ireland, 1911, typhlitis is grouped among the causes of death; but this table contains no return of the complaint for that year, and there were only 11 cases of peritonitis. The Secretary of the Office of Lunatic Asylums, Dublin Castle, sends me the returns of deaths from typhlitis during the period 1902 to 1910 as follows: 1902, 0; 1903, 1 (male); 1904, 0; 1905, 1 (female); 1906, 0; 1907, 1 (male); 1908, 2 (male and female); 1909, 0; 1910, 0—namely, 5 cases in nine years. The cause was ascertained by *post-mortem* examination, except in one case. The death-rate from appendicitis, as chronicled in the Registrar-General's Report for 1909, shows a slight gradual increase from 1901 to 1909.

The caecum, with the bud of the appendix, as stated by Quain, grow out together from a straight uniform piece of intestine at the sixth week of intrauterine life. The appendix is an abdominal and persistent anatomical arrangement in the plan of the permanent anchorage of the

* Read at a meeting of the Winchester Division.

intestines. At first a movable piece of intestine of the same structure, the appendix eventually comes to a standstill; and, for all we know to the contrary, is of little further use, for its cavity exhibits a tendency in 25 per cent. to become obliterated. And when we review the anatomy of the outer circle of the intestines, we can imagine that mesenteries here and there—natural stays—are very advantageous. Do they not break off into sections the peristaltic movements of the colon at certain points? Thus the concentrated faeces are carried onward to the outlet by not only a circular squeeze, but also by a detrusor push of contraction similar to the action of micturition. We see in the normal abdominal cavity bends here and turns there, and, if a physical kink can excite an insanity, I am sure there is also associated a neuropathic kink.

It has yet to be ascertained whether short-circuiting of the intestines is as scientific a line of action in constipation and general diseases as the old fashioned aperient treatment, unless it has to be resorted to as a radical line of treatment. Undoubtedly aperients drive muddled ideas and delusions into the closet. No one who has lived in a hospital for the insane for a length of time can contradict me. And that, too, is the reason why I conceive appendicitis is uncommon among the institutional insane. If foul products can be readily expelled from the body by the skill of the asylum physician, how is it the outside physician in charge of the sane population has not yet learnt his lesson of teaching the public the first principles of healthy life to be attained by education rather than by operation?

It is my purpose in this brief communication to emphasize the poisonous consequences of decomposing food, detained and brought to an anchorage in the fermenting vat of the cesspool at the last portion of the intestinal canal. If it is a difficult matter to keep the mouth of the intestinal canal free of septic matter, it is not a difficult operation to rid the tubing of poisonous germs that multiply there. We all know that Epsom salts might answer our object. Now civilization has taught us many things in the medical world; it has certainly taught us comparative pathology. For example, the horse, which persistently has his faeces of a characteristic odour, one day evacuates a foul motion. The teeth are found at fault, and require filing, so that they may meet properly as grinding instruments. The faeces return to their usual odour after this operation, and the balls of motion do not now contain fermenting, half-digested, swollen grains of oats. The domestic fowl emaciates, its feathers droop, and offensive diarrhoea succeeds when there are no teeth in the gizzard from an absence of grit in the run. And in man convulsive seizures, such as epilepsy, are best managed by suitable dieting, rather than by the use of the bromides and other sedative drugs of the *Pharmacopoeia*, which, as chemical restraints, have been stated to encourage degenerative changes.

Of all hospitals I know none where so much attention is given to the action of the intestines as in an institution for the insane. Moreover, the food that is taken into the stomach of an insane person in these hospitals is chiefly of the order consistent in quality and amount with health. The food, too, is of excellent quality, simple and wholesome; not least, it is well prepared by cooking. It is carefully macerated and divided beforehand, and given in this condition to those patients who will not feed themselves; while, on the other hand, it is spoon-fed to those who are without teeth, or who are accustomed to bolt or scramble their food. The indifferent feeders are always personally superintended at meal times. Constipation is never permitted in asylums, and this is the reason why the caecal appendage is less often affected by inflammatory attacks.

If medical men outside insane hospitals could guarantee the condition of a person's bowels beyond hearsay evidence, they would be hideously surprised to find how ignorantly is this essential factor of life carried out. We know of the patient who suffers from noises in the ear and deafness, who quickly returns to normal hearing after two or three days' application of oil and the skilful use of a syringe; and the case of the patient with symptoms of delusions, inclined to mania, in whom the cloud readily begins to lift when a good pill and a smart Epsom draught are given. How readily, too, does he respond to treatment; it is discovered that his rectum was blocked, and before admission we hear that he had been under restraint with such sedatives as chloral, bromides, hyoscin, paraldehyde, sulphonal, and the like.

The voice of the dentist is carrying weight with medical officers of health to an extent that "toothbrush drill" is becoming a custom in schools. If the mouth of the intestinal tract is often foul, let us imagine what must be the state of affairs lower down. Again, gynaecologists tell us how easily the peritoneum absorbs fluids. Thus auto-intoxication and appendicitis may be explained when intestinal stasis has been prolonged; and especially must inflammation arise when decomposing matter is bottled up in the piece of the intestine called the appendix, just as it occurs in the knuckle of intestine pursed up in a strangulated hernia. Therefore, from an educational point of view in physical hygiene, "intestinal drill" in the school is just as important as "scalp drill" or "toothbrush exercise." If it is difficult to deal with the septic mouths of the insane it is not found difficult to keep their cesspools clean by education. The technique of "intestinal drill" in hospitals for the insane is very judiciously observed, and the mental nurse can notify the condition of the faeces, their odour, colour, appearance, and consistence. Thus the chemistry and bacteriology of the faeces in private and public hospitals for the insane can be made to correspond with the practice of urine analysis. At Earlswood Hospital for Idiots "intestinal drill" is a feature in the management. The operations for chronic constipation or for appendicitis may be very fascinating in the eyes of the surgeon, but to prevent them by "intestinal drill" is the physician's achievement.

GASTRIC ADHESIONS AS A CAUSE OF SUDDEN DEATH.

By G. HAMILTON WINCH, M.B., Ch.B.,
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The following case is of interest on account of the curious pathological conditions which the autopsy revealed, and partly on account of its relation to the Workmen's Compensation Act. The patient, a coal miner, aged 34, was the subject of an accident on November 30th, 1908. While he was lifting, on that day, a large piece of coal into a truck, it slipped and knocked him backwards against a timber prop, injuring his back and left side. He was quite unable to resume work, and so was immediately taken home in a conveyance. There I attended him about two hours later.

State on Examination.

I found him lying on his back on a couch, with his legs drawn up. He complained of "pain in the stomach and across the back below the shoulder blades." He did not look seriously ill. His pulse was 98, temperature 97° F., and respirations 20. There was no vomiting nor hiccough.

There were no marks of injury on the abdominal wall, it moved well with respiration, and there was no distension. On palpation there was some tenderness in the umbilical region, but no rigidity. Percussion revealed nothing abnormal, and there was no evidence of free fluid in the abdominal cavity.

On his back there were some scratches and a bruise 2 in. in diameter immediately below the inferior angle of the left scapula. No ribs were broken, nor was there any injury to the spinal column.

Careful examination of the circulatory, respiratory, urinary, and nervous systems revealed nothing abnormal. It was carefully explained to the patient and his wife that although there was no evidence of serious injury then, yet there might be some internal injury of which symptoms would appear later. On these grounds the patient was strongly advised to come into the colliery company's hospital, so that his case could be properly watched, and have surgical aid if necessary.

Progress.

This advice was not followed, and he was attended at his own home for the next four weeks. At no time during this period were any untoward symptoms or signs detected, and apparently the case was pursuing an entirely favourable course. At the end of this period the man was very anxious to return to work, but my advice was against his doing so. Nevertheless, in six weeks from the date of his accident he returned to work of his own accord.

Result.

In the course of his first morning at work he told his companions that he "felt better than ever before." Shortly after mid-day he suddenly fell down dead. I was hurriedly called to see him at the pit, but on my arrival found life quite extinct.

This man had received compensation during his period of incapacity, and the question now arose, Was his death

due directly or indirectly to the accident or to a natural cause? By order of the coroner a *post-mortem* examination was made, and at this I was present. In the abdomen small recent adhesions were found between the stomach and spleen, and between the stomach and the pancreas. The pancreas showed evidence of recent inflammation of its posterior surface opposite the spinal column. Nothing else abnormal was found in the body, though a very full and complete examination was made.

The coroner's jury returned a verdict to the effect that this man's death was due to the accident. Its suddenness was probably due to a reflex stoppage of the heart, owing to the stomach dragging on the adhesions.

The case brings out two points:

1. How much care must be taken in dealing with accidents, even when apparently not serious, in view of the difficulties that may arise in regard to compensation.

2. The value of keeping full notes, not only of the injuries, but also of the general physical condition of the workman.

For instance, in this case a thorough clinical examination was made when the patient was first seen, and this enabled one to state definitely that he had no organic disease likely to cause sudden death.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ERYTHEMA NODOSUM AND TUBERCULOSIS.

IN the EPITOME of June 1st there is a note of an article in an American journal bearing on the relationship between erythema nodosum and tuberculosis. The writers of that article quote a case in which erythema nodosum was an early manifestation of tuberculous meningitis. Various writers have pointed out that an association exists between these two maladies, but there seem to be very few records of the eruption appearing almost as a prodromal sign of tuberculous meningitis. I therefore quote the following particulars of such a case:

The patient was a boy, aged 8, who was put to bed because of pains in his legs and general weakness. On examination he was found to be suffering from erythema nodosum, the spots being scattered over the fronts of both legs and extremely tender to the touch. Under appropriate treatment the boy became apparently well in a few days, and was allowed out. A fortnight later I was called again to see him, this time suffering from headache and vomiting. As there was a strong family history of tuberculosis I at once suspected meningitis. In a day or two the typical symptoms became apparent, including retraction of the neck, cephalic cry, and coma. The coma passed off for one full day but returned, and within a week the patient was dead. There was well-marked papillitis of both optic nerves. I did not connect the two troubles at the time, but later reading has convinced me that the occurrence of erythema nodosum as a prelude to tuberculous meningitis is more than a mere coincidence.

Shettleston, N.B. JAMES DUNLOP, M.B.

VIPER BITE.

THE case of viper bite described by Dr. Pendred (June 8th, p. 1291) is very interesting, but the writer's conclusion that the quantity of venom of one animal is not sufficient to kill a full-grown man in good health is not fully borne out by facts.

On August 5th, 1909, I was bitten in three places by a viper. At that time I was reading law in the early morning, working hard at my professional duties, and taking much cycling and walking exercise in the course of them, and putting in a couple of hours at carpentry nearly every evening. I had not taken alcohol for months, had reduced my consumption of tobacco by half, was hard as nails and fit to fight for my life. This last was what I had to do after my accident, an account of which by Dr. Edleston appeared in the BRITISH MEDICAL JOURNAL of September 11th, 1909. I am convinced that no one not in the pink of condition would have survived the experience, and that any person in only average condition would have died to a certainty.

I may mention that the last man before myself bitten on Big Moor, Ramsley, was a hard-working tenant farmer, who struggled to the nearest farmhouse two miles away, and died before medical assistance could be obtained. The immediate cause of his death was swelling of the glottis and suffocation following his sucking out the poison from his wounds. A similar swelling of the lips, tongue, and fauces troubled me.

In my opinion the severity of the results of a bite depend upon:

1. The age and condition of health of the person bitten.

2. The amount of poison injected.

3. The season of the year and the condition of the snake. A fasting snake at the beginning of spring, when the weather is cold, or one about to change its skin, is less likely to inflict a dangerous bite than a well-fed snake after a few weeks of hot weather.

4. The length of time which elapses between the time of the accident and that of treatment. When Dr. Edleston saw me, three hours after my accident, the pulse was gone and the heart beats could not be heard, so that another half hour without medical aid would probably have seen me out.

5. Possibly the peculiar characters of some of the reptiles may have a bearing on the question. Men living on the moors, whose forefathers have been there for generations, are strong in the belief that the adders in which the usual markings are deficient or absent, as in the case of mine (which has been preserved), are much more dangerous than normal specimens.

In conclusion, I desire to point out that the possible sequelae are rarely if ever heard of. The most immediate in my own case was dilatation of the heart accompanied by mitral regurgitation. The latter disappeared in about four weeks, but the weakness lasted for more than twice that number of months and caused several fainting fits, one as late as the December following the accident. Another was a transverse grooving of the finger and toe nails, some of which came off entire and caused inconvenience. The last, a red discoloration of the skin, came on some months after and still persists. It began near the shins and over the ulnar processes, and gradually spread, threatening to cover the whole body. Expert advice was sought but was followed by little improvement—indeed, all the six consulted said they had never seen a rash like it. It began to fade when I was on a holiday last year and swam daily in the sea, and has now almost disappeared under a course of hot salt-water baths.

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BORAX AND HONEY FOR BOTTLE TEATS.

ON April 23rd a male infant, aged 3 months, fed naturally from birth, was brought to me for treatment. It had all the signs of gastro-intestinal trouble, and, as the mother did not appear in the best of health, I advised her to wean the child, and put it on an artificial diet which I prescribed. Two days afterwards it was brought again suffering from "fits" in addition to the bowel trouble. On this occasion I made a more minute examination, and discovered that the child had a long ulcerated foreskin, with retained smegma. After this had been thoroughly cleaned up and the mother instructed how to look after it, I thought this would put an end to the "fits." In spite of repeated and most careful examinations, however, both fits and the slimy offensive diarrhoea got worse. I made changes in the diet, gave bismuth and grey powders, and later morphine, but all to no purpose. From the character of the motions and the rapid wasting I now suspected tuberculous trouble, but I could not account for the very frequent fits, and it struck me that the parents were giving the child something other than I had told them. I questioned them closely and frequently on this point without result. It was not until five weeks after the child was first brought to me that the father, in showing me a jar of virol I had advised him to get for the child, casually showed me also a tin of "borax and honey" to put on the child's soothing teat. It struck me at once, when he admitted that they had been using this all along, that this was the cause of the fits, so I put the box in the waste bucket. The father was incredulous, but I warned him to get no more. The

child was having as many as thirty fits in the twenty-four hours, and was at the point of death, but the fits now rapidly diminished in numbers and severity, until in a few days it was quite free from both fits and gastro-intestinal disturbance, and is now perfectly well.

I think it proper to publish this case because the habit of giving this mixture of borax, honey, and glycerine to children in this improper manner is becoming so widespread that chemists get large quantities of cheap honey from California for this purpose and issue the mixture in special tin boxes with "Borax and Honey" printed on the lids. I may say that the child was taken to two hospitals for further advice on different occasions during the time I was attending it. At one hospital the mother was given some pills "like flour" which made the child much worse, so she stopped giving them and brought him to me again. It is possible these pills were made of boric acid, with the idea of disinfecting the bowels. At the other hospital the child had a series of violent fits in the out-patients' room necessitating the attentions of the doctor and nurses. The mother told me that she dipped the child's teat in the borax and honey in front of the doctor and gave it to the child. She told me this to justify herself in giving the mixture, as she quite refused at first to believe it was the cause of the illness. I should say that it was their first child, and both the parents were thoroughly worn out with sitting up with him. Since then a woman in the same street has volunteered the information that her baby had fits till it was nine months old and had to be carried about on a pillow. She gave it a soothing teat until about that age, dipped in borax and honey, on the advice of a nurse, and she now thinks she knows what caused the fits. It seems to me that this matter deserves the attention of medical officers of health and district nurses, as well as the general body of medical men.

Liverpool. ANDREW S. MCNEIL, L.R.C.P. and S.E.

UTERUS UNICORNIS FOUND AT AN OPERATION FOR APPENDICITIS.

THE patient, a married woman of 21 years, was sent into the Royal Cornwall Infirmary by Drs. Gadsden and Campbell Horsfall, to whom I am indebted for the history of the case.

Menstruation commenced at 14 years, and was regular and normal, except for slight pain, until November, 1911, when she became pregnant. There is no history of illness of any importance, and she had never had any operation performed upon her. For the last four years she has had slight attacks of abdominal pain, not related to menstruation; these became more frequent after the occurrence of pregnancy, and she had an attack at Christmas, 1911, and another in February, 1912, and another again in March, when she was suddenly seized with severe pain in the right iliac fossa, where a definite tender mass could be palpated. She had frequent vomiting and the temperature was raised. This condition continued until April 18th, when a miscarriage took place, and a fetus of apparently about seven and a half months was delivered. After this the trouble rapidly subsided, and when she was admitted on April 27th she was free from pain and tenderness and the temperature was normal. As menstruation appeared shortly after, no pelvic examination was made until May 5th, when it was found that the uterus was markedly flexed to the right, but without fixation or any other palpable abnormality. There was no scar upon the abdomen, such as would have been caused by a previous operation.

On May 16th an operation was performed for the removal of the appendix, and the incision was made over the right rectus, so that the pelvic organs might be examined and treated if necessary. The appendix showed obvious signs of old disease, as it was twisted upon itself and firmly adherent to the caecum and omentum. It was therefore removed in the ordinary way and the pelvis examined.

On the right side the ovary, Fallopian tube, and the broad and round ligaments of the uterus appeared perfectly normal; the uterus, while normal on the right side, was rounded off on the left with a complete absence of the normal lateral angle; the round ligament was completely absent, as was also the ovary; the broad ligament appeared to be represented by a thin fold of peritoneum passing from the lower part of the body of the uterus to the sacrum.

The case seems therefore to be one of congenital defect of at least the upper part of the Müllerian duct, as well as of the genital gland. As the ureter is generally considered to arise from the Wolffian duct, it seemed of interest to determine whether the kidney and ureter were functionating normally on the left side in this case, and a chromocystoscopy was accordingly performed, which showed free secretion from both ureters.

The patient made a satisfactory recovery.

LAURENCE C. PANTING, M.D.Oxon., M.R.C.P.Lond., F.R.C.S.Eng.,
Honorary Medical Officer to the Royal Cornwall Infirmary.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

LONDON TEMPERANCE HOSPITAL.

A COMPLICATED CASE OF CONCUSSION OF THE BRAIN TREATED BY LUMBAR PUNCTURE.

(Reported by W. K. IRWIN, M.B., Ch.B., House-Surgeon.)

THE patient in the following case, a girl aged 11, was brought to the casualty department on April 6th, with a history of having fallen from a lamp-post (from a height of about six feet).

State on Examination.—There was no definite laceration or haematoma of the scalp, but she was absolutely unconscious, and could not be roused either by shaking or shouting; pinching the skin also had no effect. The pupils were widely dilated, the right more than the left, and did not react to light. The pulse was slow, of fair volume, and irregular. The breathing was slow, laboured, and irregular.

Treatment.—I had an ice-bag applied to her head, and kept her under observation in the casualty department for some time, but as the pulse was becoming more irregular and weaker and the respirations were becoming of the Cheyne-Stokes type, I did lumbar puncture in the usual way—using the syringe as a handle to enter the needle, then removing the syringe and allowing the fluid to escape in drops through the needle until 4 drachms of the cerebro-spinal fluid, which was clear and colourless, had been collected.

Progress.—In about ten or fifteen minutes' time, after the lumbar puncture, the pulse and respiration became more regular. She was then put to bed in a quiet corner of a ward, and had ice-bags applied to the head (her temperature at this time was 99.8° and pulse 92). She was also given calomel gr. ii, and a dose of sulphate and carbonate of magnesium the following morning. Such treatment was continued until April 12th, then as there was no improvement, being as deeply comatose as when admitted and complete incontinence continuing, lumbar puncture was again done, five drachms of cerebro-spinal fluid being allowed to escape. This time the withdrawal of the fluid did not seem to have any beneficial effect, and on April 13th the lumbar puncture was repeated and another half ounce of fluid taken off.

Result.—On the following morning (April 14th) there was a great improvement, the patient answering questions and eyes reacting to light, the comatose condition disappearing completely in about a week's time from the date of the last lumbar puncture. On April 27th she was allowed up, and by May 2nd she was able to walk fairly well, the improvement continuing until, on May 16th, the co-ordination was almost normal, and therefore the walk was almost as steady as before the injury. Intelligence was clear. Knee-jerks and muscular power of limbs normal, and no cerebral irritation was present. Two days after her admission it was noted that there was slight, but definite, papillitis of the right eye, but this disappeared, and vision became in all respects normal and co-ordinate, though the right pupil was still larger than the left.

I am indebted to Sir William Collins, honorary surgeon to the hospital, for permission to publish notes of this case.

Reports of Societies.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, July 11th, 1912.

Mr. J. B. LAWFORD, President, in the Chair.

Operative Treatment of Glaucoma.

MESSRS. BROOKSBANK JAMES and STROUD HOSFORD, in a paper dealing with operative treatment of glaucoma, recalled a description by Mr. James in 1909 of a method of operating upon all cases of glaucoma by cutting through the sclera from without, after having turned down a preliminary conjunctival flap to cover over the linear wound. Since then the operation had been somewhat elaborated by turning out a piece of sclera by the following method. The conjunctiva having been made anaesthetic, and a few drops of adrenaline solution instilled, a large conjunctival flap was turned downwards to the corneal margin. All further bleeding was now stopped by adrenaline. An incision was next made at the limbus, concentric with the corneal margin, by cutting with the edge of the Graefe knife near its tip, so that the lips of the wound were perpendicular. The paring was proceeded with until a fair depth of wound had been attained. A small puncture was then made, and the aqueous allowed to evacuate itself very slowly. A blunt-pointed Stilling knife was now inserted into this opening, and the wound enlarged throughout its extent. A moderately large iridectomy was then made in the usual way. The operator then proceeded to turn out a piece of sclera from the upper lip or the angles of the wound, endeavouring to ensure that some of the lining membrane was attached to its under surface. This was laid flat on the surface of the adjoining sclera, and held in position by the conjunctival flap being stroked over its surface. The special points in the operation were: (1) The fact that the edges of the scleral incision were perpendicular, not slanting as made by the Graefe or the keratome. (2) It would be noticed that the iris fell backwards much more readily than in an ordinary iridectomy, and did not require the introduction of another instrument into the eyeball to replace it. (3) The scleral flap could be cut by one of two methods. In some of the cases this was done by means of a punch. This, however, was somewhat uncertain, and occasionally punched a piece of sclera clean out, which was not desirable. (4) Another method was to turn outwards by means of scissors or knife a strip from one or both angles of the wound. If this plan were adopted it was better to outline the strip by marking out its limits almost through the whole thickness of the sclera prior to opening the anterior chamber, as the relaxed state of the tissues when the aqueous had escaped rendered the proceeding more difficult. Mr. Hosford said he had carried the method out in all his cases of glaucoma except one, and that he did on the periphery of the iris. Whatever method was employed there was a predilection on the part of the sclera to close up. Ten out of 38 cases so treated closed up. Of the 38, 28 leaked by first intention and 8 of the remaining 10 leaked secondarily. The operation was simple.

THE Society of Comparative Pathology in Paris (Société de pathologie comparée) is organizing an International Congress of Comparative Pathology, to be held in Paris October 17th to 23rd, and the French officials are desirous of obtaining the active co-operation and participation of British pathologists and bacteriologists. The subjects for discussion will range over the whole field of pathology, and will include veterinary and plant pathology. Among the problems already entered for discussion are tuberculosis (pathogenesis), human and avian diphtheria, cancer, variola and vaccinia, parasites common to man and animals, hydrophobia, and the comparative study of the cirrhoses. The Council of the Pathological Section of the Royal Society of Medicine recommends this congress to the support of the members of the section. All desirous of making communications at the congress or taking part in the discussions should communicate with the General Secretary of the Congress, 42, Rue de Villejust, Paris.

Reviews.

A SOCIAL FORECAST.

IT is a little difficult to criticize a book which, dealing with a highly complex and controversial subject, presents, without any attempt at more than sympathetic unity, no less than thirteen distinct and individual points of view.[1] *The Great State* is, according to Mr. Wells, a term used "to express the ideal of a social system no longer localized, no longer immediately tied to and conditioned by the cultivation of the land, world-wide in its interests and outlook, and catholic in its tolerance and sympathy—a system of great individual freedom, with a universal understanding among its citizens of a collective thought and purpose." The book is not adequately to be described as a treatise on socialism, although the prevailing tone of thought might lend colour to such a designation; and although one or two of the contributors, notably Lady Warwick and Mr. Chesterton, may certainly be numbered among the faithful. On the other hand, the writers of the Prefatory Note call attention to the fact that neither Sir Ray Lankester, Mr. Haynes, nor Mr. Roger Fry would dream of calling themselves socialists. And they proceed to suggest that the "old and largely fallacious antagonism of socialist and individualist is dissolving out of contemporary thought altogether."

This may strike some readers as a contradiction in terms, but Mr. Taylor, in his essay on the signs discoverable in our present system of the transition to the higher order which he anticipates as its probable outcome, explains that such is not really the case. "It must never be forgotten," he says, "that the end of social organization is to give the greatest amount of freedom to the individual. We will not make out a case for the Great State unless we show that it will make the individual freer than he is under the capitalist system." It is a curious fact that every attempt at collectivist legislation seems to be greeted by a chorus of protest from that section of the community which has been conspicuous for advocacy of the very principles upon which it is based. "This," we are told, "is not socialism, but an approximation to the 'Servile State.'" We read a great deal in this volume about the danger of creating the Servile State in place of that ideal which the writers have in view, but it is not clear how the latter is to be attained without an intervening stage of bureaucracy involving a considerable amount of interference with individual freedom.

One of the most informing contributions is that of Mr. Chiozza Money, dealing with work in the Great State. From an analysis of the facts elicited by the Census of Production, conducted in 1907 by the Board of Trade, Mr. Money deduces that only 45 per cent. of our males over eighteen are direct producers of material commodities. "Is it reasonable," he asks, "that the labours of the remainder of the working population should be needed to transport and to distribute the material production of so small a proportion of our men, aided by a couple of million women and children?" Moreover, Mr. Money adduces evidence to the effect that of the commodities thus produced (averaging in value only some £23 a head of the population), only a small proportion are in respect of material employed or general utility in any way worthy of the available resources of civilization. "I repeat here," he exclaims, "what I have said before, that rubbish-making is our largest industry." Mr. Money contends, not unreasonably, "that the means of production are now so efficient as to make it possible to produce easily much more than we can consume," provided always that labour be "organized without competitive work, and exerted, not for individual profit, but in the output and economic distribution of useful products and services." The idea seems to be—and it is taken for granted by the majority of his fellow contributors—that every adult is to contribute to the common task a certain minimum amount of productive or useful service, and to receive in return a sum equivalent to

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[1] *The Great State: Essays in Construction.* By H. G. Wells, Frances Evelyn Warwick, L. G. Chiozza Money, E. Ray Lankester, C. J. Bond, E. S. P. Haynes, Cecil Chesterton, Cicely Hamilton, Roger Fry, G. R. S. Taylor, Conrad Noel, Herbert Trench, Hugh P. Vowles. London and New York: Harper and Bros. 1912. (8vo, pp. 379. 6s. net.)

all the necessities of a minimum standard of life. The daily number of hours of compulsory work would obviously vary in accordance with this minimum standard of life; but it is held by most of the contributors that it would be much smaller than that commonly exacted under the present wasteful system. This, it is contended, would leave a large residue of time and energy to be devoted to amateur work of various kinds, the proceeds of which, if remunerative, would be legitimate sources of increased private income. As to the means by which the change is to be brought about, Mr. Money vouchsafes no information; but Mr. Taylor indicates the graduated income tax, with its super-tax on all incomes above a certain figure, as an open sesame to the Great State.

Sir Ray Lankester, writing on the making of new knowledge, finds little hope for science in the prospect of a triumphant democracy, such as, for example, Mr. Cecil Chesterton desires. Niggardly as is the present provision for the needs of original research, he fears that matters may be worse rather than better when the "masses" have ousted the "classes" from the seat of power. He complains of the constant misappropriation of the means for the creation of new knowledge to the comparatively unimportant, because infertile, object of disseminating what is already known. And, waiving his own doubts as to the likelihood that the very large sums required will be available, he proceeds to outline an interesting scheme for the discovery, training, and employment in State institutes of research of those comparatively rare individuals who are by nature adapted to act as genuine investigators. Mr. C. J. Bond contributes an excellent chapter on health and healing in the Great State. "Health," as he rightly insists, "is more than mere existence; it means in its widest sense 'Joy in Life'; it presupposes a capacity of response to the beautiful, the health-giving, the soul-elevating stimuli of the surrounding world." We are glad to find a medical writer emphasizing the necessity of a broader conception of health; the subject of the book is from this point of view strictly medical, since, as Mr. Bond truly says, "the problem of health is linked up with the problem of education on the one hand and the possibilities of social, economic, and industrial reform on the other." We think, however, that many readers will share our own doubts as to the "absolute necessity" of State control of our voluntary hospitals. Change of some sort seems inevitable, in view of the threatened breakdown of the present system of reliance upon charitable bequests and subscriptions, but we should prefer an alternative less menacing to the scientific prestige and independence of these great institutions. If Mr. Roger Fry may be trusted, the aesthetic outlook of the new régime is hardly more exhilarating than the scientific, as forecasted by Sir Ray Lankester. Mr. Fry thinks it doubtful whether the born artist will be able to live by the practice of his vocation. All our pictures are likely to be painted by amateurs. But he consoles himself by the hope of a vast improvement in the practice of applied, as distinct from pure, art, and the reflection that the Great State will be essentially an organization for leisure—out of which art grows. He concludes with the fascinating suggestion that, in some halcyon age to come, society may "choose its poets and painters and philosophers and deep investigators, and make of such men and women a new kind of kings."

MODERN TUNNELLING.

WE have received an interesting work on *Tunnel Shields and the Use of Compressed Air in Subaqueous Works*,[2] by Mr. W. C. COPPERTHWAITE, Bridges Engineer of the London County Council. Mr. Copperthwaite gives an account of all the great tunnel works and the evolution of the compressed air shield and modern methods of tunnel building. His work is illustrated by numerous diagrams and, so far as we can judge, must form a compendium on the subject most useful for the engineer. The chapter on the use of compressed air in engineering work and the care of the health of the workers is particularly well done. Mr. Copperthwaite has made himself familiar with the work done by physiologists on the subject. Concerning caisson disease he writes:

> The experiments of M. Paul Bert and of Dr. Leonard Hill have proved conclusively that this malady is due to the appearance of bubbles of nitrogen in the blood during or after decompression and interfering with the circulation; and that the effects of this release of nitrogen, due to decompression, can be avoided provided that the rate of decompression is not more rapid, or at least not much more rapid, than the rate of dissaturation of the body from nitrogen.

The author is thoroughly acquainted with the fact that the percentage of CO_2 in the air cells of the lungs of any individual is a constant quantity, and the breathing is automatically regulated so as to maintain it; that in compressed air it is no longer the percentage but the absolute pressure which matters—thus at 30 pounds gauge pressure or three times the ordinary pressure, 1 per cent. will represent the equivalent of 3 per cent. in normal air; that such excess of CO_2 in the tunnel works will increase the laboured breathing of men doing heavy muscular work, and therefore must be guarded against as much as anything else which tends to exhaust the men unduly before they are locked out at the end of their shift.

The regulations enforced by the New York State as to length of shifts and periods of locking out are given, as well as the much better recommendations made by Mr. E. W. Moir, of Messrs. Pearson and Co., who has had an unexampled experience of caisson works. It is a pity that his recommendations were not chosen for enforcement if State interference was to come in at all. The general suggestions of the author for regulating the workers are excellent. No one suffering from any temporary illness or anything affecting his normal health is to go into the air chamber. The men must be well fed, be warmly clad before submitting to the cold process of locking out, and exercise their bodies well during the locking out, so as to help the washing out of the excess of nitrogen dissolved in the body. The proper selection of men is insisted on; the weeding out of those with weak hearts or diseased lungs, of gross habit of body, or suffering from alcoholism; the need for weekly medical examinations is pointed out, so that any who show signs of ill-health or loose living may be eliminated. A medical lock for recompression of cases is a necessity. The tunnel must be lit with electricity, and pure air assured. Engineers are now, we believe, fully alive to the value of physiological researches, and the means of making compressed air safe.

DUODENAL ULCER.

WE have waited with interest, and have only had to wait two years, for the second edition of Sir BERKELEY MOYNIHAN'S monograph on *Duodenal Ulcer*.[3] In reviewing the first edition (BRITISH MEDICAL JOURNAL, September 17th, 1910, p. 779), we ventured to anticipate that in his controversy as to the identity of "recurrent severe hyperchlorhydria" and duodenal ulcer, the author, when by his dramatic statements he has compelled a very considerable degree of admissions from his opponents, would "be the first to admit that in matters medical, assertions couched in such uncompromisingly dogmatic terms, imply exceptions." In a discriminating discussion of the distinction between the clinical and the chemical significance of the word "hyperchlorhydria," the author has included what we take to be such an admission, in a flank attack upon critics. Readers of the BRITISH MEDICAL JOURNAL (January 29th, 1910, p. 241) are familiar with the syndrome, described by the term "appendix dyspepsia," here included in an enlarged chapter on differential diagnosis, which also furnishes a more complete examination of the points of dissimilarity between cholelithiasis and duodenal ulcer. The work of Hertz on *x*-ray evidence of enhanced activity of the motor functions of the stomach in cases of duodenal ulcer has been utilized, and his results confirmed. Screen examination, after a bismuth meal, discloses a "characteristic picture," which is of use as contributory evidence in diagnosis.

In the matter of treatment, little new was to be expected. A section on the treatment of melaena neonatorum by direct transfusion of blood, and a paragraph recommending the routine removal of the appendix when operating for

[2] *Tunnel Shields and the Use of Compressed Air in Subaqueous Works.* By William Charles Copperthwaite, M.Inst.C.E. Second edition. London: Constable and Co., Ltd. 1912. (Imp. 8vo, pp. 404; illustrations 260. 31s. 6d. net.)

[3] *Duodenal Ulcer.* By Sir B. G. A. Moynihan. Second edition, enlarged. London and Philadelphia: W. B. Saunders Company. 1912. (Roy. 8vo, pp. 436; figs. 78. 21s. net.)

chronic duodenal ulcer are the most important additions. A detailed statement of cases operated upon furnishes notes of no less than 115 for addition to the previous series of 187. The statistical results of the later series are a little better in every respect than those of the former, so that approximately 83 per cent. of cures can now be claimed, and the operative mortality is less than 2 per cent. No medical man can afford to overlook the clinical data to be found in this book; it should be read, marked, learnt, and inwardly digested.

THORPE'S DICTIONARY OF APPLIED CHEMISTRY.

In the preface to the new edition of Sir EDWARD THORPE'S *Dictionary of Applied Chemistry*[4] it is stated that this edition is practically a new work, and a study of the two volumes which have already appeared shows that this is by no means an overstatement. It is twenty-two years since the first volume of the previous edition appeared, and it is a fact familiar to every one that during the time that has elapsed since then the progress which has been made in every branch of chemistry has been entirely unprecedented; the extension of the applications of chemistry in the manufactures and arts, with which this *Dictionary* is more especially concerned, has been no less remarkable. During this period a new generation of chemists has grown up, so that as a rule those who are best qualified to write about any given branch of applied chemistry are not the same persons as were in that position twenty-two years ago; hence the monographs in this work are to a large extent written by other chemists than those who contributed to the former edition, and it is interesting to notice the names of several women among the contributors. The number of monographs on new subjects is very large; many other articles have been entirely rewritten, and the remainder carefully revised. One inevitable consequence is that the work can no longer be contained in three volumes, and the present edition is to be published in five; the two which are now before us contain nearly 800 pages in each.

It is impossible, in noticing a comprehensive work of this kind, to give any detailed idea of its contents. Manufacturing and other industrial processes, dealt with especially from the side of the chemical changes involved, necessarily form a considerable part of the matter, but a large number of subjects of direct concern to the medical profession are also dealt with. Thus these two volumes (covering from A to Goudang) contain articles on carbohydrates, diastase, aërated mineral waters, and on bread, butter, cheese, brandy, and over forty other articles of food and drink; the drugs dealt with individually number about thirty; Dr. Henry Robinson writes on anaesthetics, general and local; Dr. S. Rideal on disinfectants; and Dr. W. D. Halliburton contributes articles on bile, blood, and bone. Some of the monographs amount to treatises of considerable length; that on analysis, for example, occupies 100 double-column pages. It will be readily understood from what has been said that this work is a complete storehouse of information on a large and varied range of subjects.

DR. SUN YAT SEN.

SUN YAT SEN, the first President of the Chinese Republic, was the first student and the first graduate of the College of Medicine for Chinese in Hong Kong. He was born in 1867 in a village in the extreme south of China, near the Portuguese colony of Macao. His father was a Christian convert, and was employed as a missionary agent by the London Missionary Society. When 18, the son went to the hospital of the Anglo-American Mission in Canton; two years later he joined the Hong Kong College in the year of its foundation, and graduated after a course of five years. He first practised in Macao, and there became associated with the Young China Party; after two years in Macao he went to Canton, but after a short time the failure of an attempt to seize Canton and its arsenal compelled him to become an exile, and for the next fourteen or fifteen years he roamed the world, stirring up his fellow-countrymen in many colonies to free their country from the yoke of the Manchu dynasty. It was at an early stage of this Odyssey that the sensational incident of his kidnapping by the Chinese Embassy in London occurred. Of the success of the recent revolution, of how Sun Yat Sen was elected President of the Chinese Republic, and of how he soon stood aside in what he conceives to be the interests of unity it is not necessary to say anything, since the history is so recent.

Mr. JAMES CANTLIE, who was the inspiring spirit among the founders of the Hong Kong College of Medicine for Chinese, and its Dean until he left Hong Kong in 1896, has known Sun Yat Sen well both during the five years of his studentship in Hong Kong and ever since 1896, but he admits that the book, *Sun Yat Sen and the Awakening of China*,[5] would not have been written but for the help of Mr. SHERIDAN JONES, and it is not easy to distinguish the share of the two authors. We may, perhaps, assume that the opinions are those of Mr. Cantlie, and we find him a most confirmed hero-worshipper. He seems to think no praise too high, and he has at least this justification, that it is true, as he writes, that the forbearance and the patriotic spirit with which the temporary republican government, under Sun's direction, conducted affairs "has gained the approbation and admiration of the whole world." As to the future of the Chinese Republic Mr. Cantlie is optimistic, believing that a Federal Government will form the best link between the several provinces, which in theory and practice have always enjoyed a large measure of autonomy. We gather that Mr. Cantlie is now convinced that the announced determination of the Chinese to put an end to opium smoking and the use of morphine, which seemed to threaten to replace it, is serious and sincere, and will be successful. He believes that the whole country will be opened up to ordinary trade, and that China, much against its inclination, will become a great military power. The book has two portraits of Dr. Sun Yat Sen and numerous other illustrations, all interesting, if not all strictly germane to the text.

NOTES ON BOOKS.

The Science and Art of Dispensing and a Dictionary of Synonyms[6] is the title given to the current issue of the Pharmaceutical Pocket Book. The matter presented does not differ materially from that of previous issues, and, in addition to the subjects mentioned in the title, includes useful chapters on weights and measures, doses, abbreviations used in prescriptions, materia medica, analysis of water, milk, urine, and metallic salts, volumetric analysis, poisons regulations, etc. A great deal of useful practical information is given in the compass of a volume small enough to carry in an inside pocket, and the book should prove scarcely less useful to medical students than to those mainly concerned with pharmaceutical chemistry.

Dr. BINGHAM'S *Words to Wives*[7] is a useful type of book. It is intended to inform them of the ordinary course of pregnancy and parturition, to warn them of the various signs which may indicate a departure from the normal, and the importance of securing promptly skilled advice as to the arrest of the threatened deviation, and especially to impress upon them the importance of surgical cleanliness in themselves and each of their attendants as the one means of obviating the most serious of the accidental dangers to which they are liable. The general plan is well conceived. There are, however, several defects in the execution which will require attention when the opportunity for revision arises. The style is not always clear, and the main purpose of a sentence is sometimes lost by the tagging on of a subsidiary clause. The popular statement of scientific fact in anatomy or physiology may not be easy, but Dr. Bingham gains nothing by making it sometimes inexact. In the rather difficult decision as to how much detail should be left to the patient in the use of simple medicines rather more might have been reserved for the instructions of the personal medical attendant. In the anxiety to impress the patient with what is involved in surgical cleanliness a rather rigid routine has been adopted; and though in fact the technique selected

[4] *A Dictionary of Applied Chemistry.* By Sir Edward Thorpe, C.B., LL.D., F.R.S., assisted by eminent contributors. Vols. I and II. London: Longmans, Green and Co, 1912. (Roy. 8vo., pp. 766 and 794. 45s. per vol.)

[5] *Sun Yat Sen and the Awakening of China.* By J. Cantlie, M.A., M.B., F.R.C.S., and C. S. Jones. London: Jarrold and Sons. 1912. (Demy 8vo, pp. 306. 6s. net.)

[6] *The Science and Art of Dispensing and a Dictionary of Synonyms.* The Pharmaceutical Pocket Book, 1912-13. Edited by John Humphrey. London: The Pharmaceutical Press. 1912. (Fcap. 8vo, pp. 312. 2s. 6d.)

[7] *Words to Wives on Pregnancy and Parturition.* By S. Bingham, M.R.C.S.Eng. London: George Allen and Co., Limited. 1912. (Cr. 8vo, pp. 201. Price 3s. 6d. net.)

does not correspond to that in any hospital with which we are acquainted, it is laid down so definitely that it might conceivably be quoted in support of the idea that any doctor who omitted or altered any part of it had been professionally negligent. In future editions a good deal of simplification should be made. It would be well to omit, *inter alia*, the paragraph on the determination of sex on p. 28. The calculations of the date of pregnancy on pp. 29 and 112 should be made to agree, and the suggestion conveyed on p. 153 that the protest of a lady pupil in London was the origin of the routine cleansing of the vulva before examination in lying-in institutions should be amended.

The fifth volume of *The Prescriber*[8] brings together the issues of this periodical for the year 1911, and gives a good idea of the kind of information with which its editor, Mr. THOMAS STEPHENSON, F.C.S., commonly supplies his readers. Each monthly issue contains some short editorial notes on current questions connected with therapeutics and pharmacology, one or two original articles on the same subjects, then novel prescriptions derived from various sources, abstracts of recent papers in British and foreign journals of direct therapeutic interest, and, finally, some reviews of books and literary notes. The publication must often be found of interest and utility.

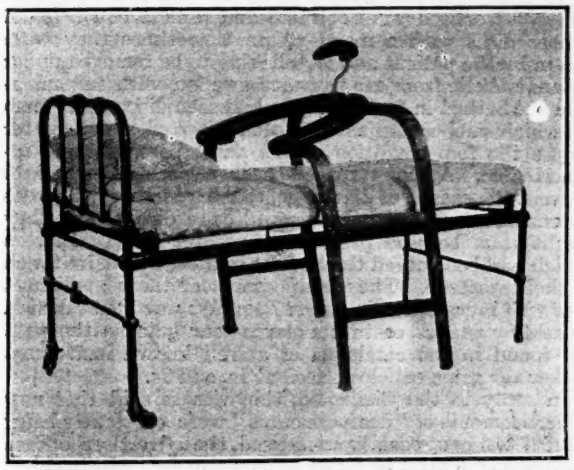
Under the title of *Sexual Disease and Its Medical Prevention*[9] has been brought out a new edition of a small book formerly published under the name of *Social Disease and Its Prevention*. Its author, Dr. H. N. ROBSON, suggests that since it has not been found possible to prevent prostitution, either open or secret, serious endeavours should be made to prevent the spread of disease thereby. Both syphilis and gonorrhoea should be thoroughly treated whenever encountered, and sexual hygiene should be taught to young men. In France recruits, he points out, now receive official instruction on the subject of venereal disease.

[8] *The Prescriber*. Vol. v. Edited by Thomas Stephenson, F.R.S.E., F.C.S. Edinburgh: The Prescriber Offices. (Demy 8vo, pp. 330.)
[9] *Sexual Disease and its Medical Prevention*. By Dr. H. N. Robson. Third edition. London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1911. (Crown 8vo, pp. 112. 3s. 6d. net.)

MEDICAL AND SURGICAL APPLIANCES.

A Bed Rest for Orthopnoea.

THERE has been in use for a considerable time at St. George's Hospital a kind of bed rest the merits of which are considered by Dr. William Ewart to be not yet sufficiently known elsewhere. It consists of a four-legged bent wooden frame which, reaching the ground on each side of the bed and arching across it, supports in its centre two horseshoe-shaped sloping surfaces. These lie at



different levels, the lower and much the larger being intended for the elbows and arms of the patient and partly encircling his body, and the upper and smaller serving as a resting-place for his forehead. The latter is removable, and in practice is frequently removed, since many patients find that the lower horseshoe does all that is required. On this the patient rests his arms, and on his arms his head. A decided advantage of this bed rest is that it exercises no pressure or restraint, the degree of possible movement forward being variable with the nearness of the frame. If the patient wants to lie back, he can do so as far as the position of his pillows allows; even if he is lying right down the appliance is still of value as offering a fulcrum by which he can use his arms to alter his position, or to reinforce respiratory movements. Contrariwise, if the patient desires to lean forward, he feels quite safe, even if the bed is tilted for drainage purposes or he is moved down towards its foot. This rest, which was devised by Sister A. E. M. Rowson and patented by her for the benefit of the funds of the hospital, is obtainable from Messrs. J. and A. Carter, New Cavendish Street, W., and certainly is well worth examination by those who have not yet seen it. It is known as the St. George's Hospital Heart Bed Rest, and costs four guineas.

The Harcourt Chloroform Inhaler.

Messrs. Griffin, of Kingsway, London, who are the makers, have issued a pamphlet of 20 pages explanatory of the apparatus. It is pointed out that the Special Chloroform Committee of the British Medical Association, appointed in 1907, proved experimentally and clinically (see Reprint of their Report, issued by the British Medical Association, 429, Strand, W.C., price 1s.) that this apparatus worked efficiently in all cases, reduced the risk of chloroform poisoning to an almost negligible minimum, effected a great saving of chloroform, and by lessening the evaporation of vapour into the operation-room diminished the danger of phosgene gas poisoning. The pamphlet is well illustrated, and will enable the reader to grasp readily the construction and working of the apparatus. The directions given for its use are concise and clear, and to these is added a reprint of Dr. Dudley Buxton's essay upon its use in the surgery. Mr. Harcourt has modified the machine further, so that it can be employed both on the "plenum" or "draw-over" principle, and in association with an oxygen supply, thus extending its use to operations of the mouth and air passages. The falsity of the idea that the inhaler is complicated and difficult to manage is amply demonstrated. The equally important facts are emphasized that the anaesthetist using the Harcourt inhaler is always fully aware of the amount and concentration of the drug he is giving, and retains at all times an absolute control, both of this concentration and the quantity, and can see and hear the movements of the valves which reveal the state of the respiration.

MEDICINAL AND DIETETIC ARTICLES.

Kronenquelle Water.

THE discovery of appreciable quantities of radium in certain natural mineral waters and the probability that it exists in all has done something towards providing an explanation of the superiority which natural waters are generally admitted to possess over artificial imitations resembling them in regard to their principal ingredients. How far this may be a sufficient explanation, or how far the action of certain salts may be modified by the presence of traces of others which accompany them in natural waters, remains still to be decided, but probably few practitioners would hesitate about giving a natural medicinal water preference over an artificial one. Among the natural waters which are bottled and supplied for regular consumption in the patient's home, that of the Kronenquelle, at Obersalzbrunn, Silesia, has long been favourably known. Messrs. Schacht, Warner, and Co. (55, Fore Street, London, E.C.), who are the British agents, have recently submitted samples of this water, and the results of our examination of it are quite satisfactory. It possesses a well-marked alkalinity, the principal constituents being sodium, calcium, and magnesium bicarbonates, with sodium sulphate and smaller quantities of sodium chloride, potassium sulphate, and lithium bicarbonate. The chief use of the water is in diseases depending on insufficient elimination of uric acid, and it has thus a wide field of application.

Sumner's Iodine Tubes.

In commenting recently (BRITISH MEDICAL JOURNAL, March 23rd, 1912, page 678) on Messrs. R. Sumner and Co.'s iodine tubes we referred to a difficulty in dissolving the whole of the iodine when an aqueous solution is desired. The makers have now submitted further specimens of the tubes, containing boric acid in addition to iodine and potassium iodide, and giving directions for the contents to be dissolved as far as possible in a very small quantity of water and then added to a much larger quantity. Our tests with these tubes show that by proceeding in this manner a satisfactory solution is obtained with very little trouble.

THE PARLIAMENTARY COMMITTEE ON PROPRIETARY MEDICINES.

NUMBER OF PATENTED MEDICINES.

ON July 11th the Chairman said that the Committee had received a letter from Mr. Temple Franks, the Comptroller-General of Patents, as to the number of letters patent issued with reference to medicinal preparations. From 1861 to 1897, inclusive, 577 such patents had been granted, and all had expired. From 1898 to 1910, inclusive, 688 patents were granted, of which 295 were still unexpired. There had been many applications during 1911 and 1912, but the figures had not been tabulated.

PROPRIETARY ARTICLES IN RELATION TO SEXUAL MATTERS.

Before Dr. Reginald E. Crosse gave evidence as to proprietary medicines and appliances in relation to sexual matters, the Chairman said that, for obvious reasons, the Committee proposed to take such of the evidence as was thought fit in private.

Dr. Crosse said he had been a general practitioner for twenty years, and was now temporarily assisting the British Medical Association, and appeared on behalf of that body. He had given special attention to the question of proprietary medicines, and wished to call attention to the very large amount of advertising there was of such preparations and appliances in regard to sexual matters. He was glad to be able to say, however, that a number of proprietors of newspapers and periodicals declined to accept such advertisements. There was, nevertheless, widespread advertisement of these articles, especially in the Midlands. To show the ramifications of such advertisements the witness quoted the names of a number of publications in which they appeared. They related to remedies for female ailments and irregularities, remedies for venereal diseases, and preparations and appliances for the prevention of conception. On April 13th he took a walk in the neighbourhood of Trafalgar Square and made notes of the exhibits in shop windows. The result was a long list of various preparations and appliances which were exhibited and offered for sale and which were obviously undesirable.

The Chairman intimated that he would ask the witness to indicate on broad lines the evidence he proposed to give, and the Committee would hear it *in camera*.

Dr. Crosse said he proposed to demonstrate that the various preparations and appliances were largely advertised. He would classify them as follows: (1) Remedies for re-establishing menstruation, (2) preparations for procuring abortion, and (3) advertisements of appliances for preventing conception. The first and second classes related to women, and the third class to women and men. He next proposed to refer to the advertisements which had special reference to men; they included "cures" for nervous debility and exhaustion. He would make a special point of "cures" which were advertised for venereal diseases, and of the danger of treatment when undertaken by unqualified persons. In no case would he give evidence on points as to which he was not in possession of documentary proof.

Dr. Crosse's evidence occupied a considerable time, and at its conclusion the press representatives were re-admitted.

DEAFNESS "CURES."

Mr. P. Macleod Yearsley, F.R.C.S., gave evidence on behalf of the British Medical Association as to proprietary medicines and appliances in relation to aural diseases. He said the quack advertisements addressed to sufferers from disease of the ear and its symptoms, especially deafness and tinnitus aurium, might be divided into two groups: (1) Those that promised to cure all forms of deafness "without operation" (and, he might add, without diagnosis) by means of drugs variously applied, and (2) those having for their object the sale of some appliance. The favourite method of these persons was to treat by correspondence, and to charge large sums for worthless plasters, drops, snuffs, and the like. Mr. Yearsley mentioned two or three typical "deafness cures"; these contained vaseline, beeswax, soap, glycerine, oil, and, in one case, oil of turpentine. These were fairly typical of the worthlessness of the "remedies," and some —although at first sight they might appear harmless— were capable of doing considerable mischief. Oil dropped into the ear would tend to become rancid, and so act as an irritant; the preparation containing oil of turpentine would most certainly prove an active irritant. At various times he had seen at his clinic at the Royal Ear Hospital patients with advanced middle-ear deafness, absolutely incurable by any drop treatment, who had been using quack remedies of that sort, with the result that their ear passages were in a condition of severe eczematous inflammation. The majority of these quacks treated by correspondence, but occasionally they had the temerity to accord their victims an interview. Mr. Yearsley quoted instances to show the futility of both methods. A servant girl who came to see him at the hospital had complete nerve deafness due to congenital syphilis and old-standing discharge. She showed him a written "diagnosis" by an "institute" of middle-ear disease with discharge, containing an implied promise to restore the hearing—a promise impossible of fulfilment because the nerve apparatus of both ears was completely destroyed. She had already paid 12 guineas to the institute. This girl's life was seriously endangered by wrong treatment. A man aged 30 consulted him for discharge which had existed since infancy. He had been treated by drops, plasters, snuffs, etc., by an "institute" by correspondence. On examination the ear was found to be full of polypi. The patient had serious mastoid disease, needing operation. Any aural surgeon would have recognized the symptoms described by the patient as indicating dangerous complications. A gentleman aged 70 had spent £21 on treatment by correspondence, and finally sought an interview with the "specialist," who syringed the ears without any previous inspection, causing much pain and increasing the deafness, as well as inducing tinnitus. The witness afterwards saw the case and found both ears blocked with wax, which the inexpert syringing had driven further into the ear. This was removed by proper syringing, with immediate relief to the patient. The harm done by these remedies was partly positive, partly negative. Some of them might do positive harm by acting as irritants, but they worked largely by causing delay of proper treatment appropriately applied after scientific diagnosis. The quack appliances advertised in relation to deafness were mostly vibrators and "artificial ear drums." Vibrator massage was of undoubted value in one or perhaps two forms of deafness, provided it was used with caution and under skilled supervision. But carelessly applied it might do more harm than good, especially if long continued. So-called "artificial drums" were also of value in certain cases, but most of the patterns widely advertised were obsolete and useless, consisting of rubber discs with a metal stem. Sometimes they were put in by the patient and lost, having to be removed under an anaesthetic from ear passages swollen with inflammation and bathed in foul pus. He had seen discharging ears in which rubber drums had been inserted and kept for days; the foul condition of the aural passages was indescribable. A drum placed over a perforation might prevent the escape of discharge, causing further dangerous extension of disease. In ears already discharging they might thus become positive agents for harm. In ears which had been cured they might reinfect by the irritation of their presence. The worthlessness of these appliances was well brought out in *Secret Remedies;* artificial drums, as sold by quacks, cost from one to four guineas the pair. He found in the catalogue of a well known instrument maker the same articles priced at 1s. and 2s.

In reply to the Chairman, the witness said that new advertisements of "deafness cures" were constantly being issued. In one recently advertised, the advertiser offered a reward of £500 if he failed to cure any case within thirty days. These advertisements were especially frequent in the sixpenny and shilling magazines. The same remedies and appliances constantly reappeared under new names.

The Chairman: What do you suggest should be the method of dealing with quacks of this kind?

The Witness: It is rather a difficult matter, but it is a widespread and grave evil, and some legislation is required.

In reply to Dr. Lynch, Mr. Yearsley said that, having regard to the way hopelessly deaf people flew to any cure advertised, it was probable that the vendors made a fairly

good income. From the pamphlets they issued, the proprietors appeared to have very crude ideas as to the anatomy of the ear.

Dr. Lynch: Could you trace the origin and training of such a quack?—That would be rather difficult. Any man with sufficient effrontery, and money enough to advertise, can easily get a little knowledge out of a textbook and proceed. In reply to a further question, Mr. Yearsley said it was curious how many apparently intelligent people would try quack remedies for deafness in preference to being examined by a specialist.

Mr. Cawley: Do you think it would be advisable to impose some prohibition on the use of aliases by vendors?

The witness said he did think so, and added that he agreed with the general suggestions of the British Medical Association; in regard to drugs advertised for the cure of affections of the ear, the ingredients should be stated on the labels. He also thought it would be wise to prohibit treatment by correspondence.

Mr. Lawson asked if all ear-drums were to be condemned, and Mr. Yearsley replied in the negative, observing that it was a question of their application under proper supervision.

Mr. Lawson: Would you prohibit the selling of all appliances not ordered by a surgeon?—Yes; I would go as far as that.

In reply to Mr. Newton, Mr. Yearsley said that oil was scarcely ever used by aural surgeons nowadays.

Mr. Newton suggested that some of the ingredients of the advertised remedies might do good, and that the real difficulty was self-diagnosis. Mr. Yearsley replied that the oils advertised would not be likely to do any good in any form of deafness, but some of their ingredients might be good if used in other ways. As to the stocking of obsolete ear-drums by instrument makers, the witness said that, although these instruments survived, they were practically never sold. He did not think the medical faculty of the whole world, if it held a conference, could suggest any treatment that would be of use in all cases of deafness. There must be examination of the individual patient.

On July 16th the Committee sat *in camera* during the morning to hear further evidence relating to the sale and advertisement of proprietary medicines and appliances in regard to sexual matters.

Proprietary Medicines and Skin Diseases.

In the afternoon Sir Malcolm Morris, consulting surgeon to the skin department of St. Mary's Hospital, gave evidence on behalf of the British Medical Association and of the Dermatological Section of the Royal Society of Medicine, of which section he was President, with regard to proprietary medicines and skin diseases. He had been forty years in practice, the first five as a general practitioner and thirty-five as a specialist in skin diseases. Some proprietary preparations were useful and should not be interfered with. These consisted of really effective remedies, of which the advertisements were in the main legitimate and truthful. To some extent, but not entirely, the formula was known; at any rate, the general principles upon which they were made and the principal ingredients were known, though the method of compounding might not be.

The Chairman: A medical man would not prescribe a proprietary medicine of whose contents he was ignorant?—Not as a rule.

Would he ever?—Yes, they do, I am sorry to say.

Continuing, the witness said there were proprietary remedies which did harm by causing inflammation of the skin. These were extensively advertised as marvellous cures, and he had known many cases in which they had done positive harm.

The Chairman: Would you give us a typical example?

Sir Malcolm said he would rather not mention any particular preparation, because it was unwise to select from a large number any one or two which might be harmful. There were remedies which were useless, and allowed infection to spread. In the case of ringworm, itch, erysipelas, and other infectious skin diseases, many of the proprietary remedies were perfectly useless. He had known cases where an epidemic of ringworm had obtained considerable hold in an elementary school because some useless remedy had been applied. There were also remedies advertised extensively for the treatment of serious diseases, such as cancer of the skin, rodent ulcer, lupus—a tuberculosis of the skin which destroyed it and might ultimately cause loss of life. Remedies used for these diseases had been perfectly useless in preventing their spread, and valuable time in which other remedies might have been applied had been lost, the patients ultimately getting into a terrible condition. In these cases, undoubtedly, great cruelty was inflicted upon innocent people. He had seen a large number of people who had come to hospitals, principally from the country, too late for treatment, and who had died from the worst form of death it was possible to die of. These people had been using proprietary medicines and ointments for years, and had got steadily worse. There were internal remedies for the treatment of skin diseases which produced drug eruptions, and, instead of proving beneficial, had resulted in discomfort and even pain and suffering to the patient. Articles of this class, which contained active drugs, when used without an accurate diagnosis, might have an unfavourable action upon the course of the case; for example, taking a drug which irritated an inflamed kidney when it happened to be coincident with a skin disease. He and his colleagues who were associated with him in giving this evidence felt that the mere publication of the formula would not be sufficient, because the majority of people, especially of the poorer classes, would not understand the formula and would not know whether any drug was present which would be likely in their own particular case to be harmful or not. They also felt that it was not right on general principles for advertisements to state what was not true. He looked to the time when advertisements would only tell the truth.

The Chairman: That would indeed be a happy time.

Mr. Lawson: Mr. Chesterton says exaggeration is the only truth.

Sir Malcolm: I am not a follower of Mr. Chesterton. Continuing, he said that his suggestion was that all remedies should be submitted to a special board of commissioners for analysis, and all advertisements of remedies intended for the treatment of disease should be submitted to the same board, who would act as censors, and forbid as far as possible untruthful advertisements appearing. The Public Prosecutor should act in cases where they did appear. The board of commissioners should consist of three persons—a chemist, who would analyse substances and test the approximate truth of statements made; a medical man of experience; and an independent person, probably a lawyer. His reasons for advancing these suggestions were: (1) That the State recognized a special responsibility for the health of the community; (2) that there was nothing as to which people were so prejudiced as secret remedies; and (3) that the majority of people had no special knowledge enabling them to discriminate between valid and worthless remedies. The public required to be protected against its own ignorance and credulity.

In reply to questions, the witness said he did not object to ointments for the skin so long as they were simple and harmless and untrue claims were not made for them in the advertisements. He had known cases where patients derived benefit from this class of proprietary remedy, but not nearly as often as he had encountered cases where they had done harm. He did not think it would be impossible for a board of censorship to express a definite opinion as to the value of these remedies. He did not take the view that these remedies should be entirely stopped; he used some of them himself.

The Chairman: Do you know of any remedy that could be correctly advertised as "a remedy for all irritating skin diseases"?—There is no such remedy.

Do you think it desirable that the BRITISH MEDICAL JOURNAL should publish such an advertisement, because I have one in those terms before me?—I do not think so.

Do you think it desirable that the *Lancet* should give a long testimonial to an article which describes itself in the way I have indicated?—I do not think it is wise.

Is "wise" quite the word?—I do not think it is right.

Dr. Arthur Whitfield, Physician to the Skin Department, King's College Hospital, gave evidence in agreement with that of Sir Malcolm Morris. Proprietary medicines for the

skin which fell into the "useful" class were secret prescriptions; their use was in forming the ingredients of a medical prescription. He felt strongly that no remedy should be sold with a recommendation as a cure for any disease. It was one thing for a man to say, "This is a good antiseptic," and quite another for him to say, "This is a good ointment for ringworm," because that involved diagnosis by the patient, and the question of diagnosis was the key of the whole situation.

In reply to the Chairman, the witness said he was acquainted with most of the much advertised skin oitments, etc. Not one of them contained anything new, and none of them could be included in the class of useful remedies. He did not think the number of cases in which harm was done by advertised preparations was very large, but when harm was done it was extremely serious. Sufferers from lupus, for instance, were liable to be doomed to lifelong misery if while they were using ineffective ointments it became too late for the simple surgical operation that would cure them.

The witness agreed with Dr. Lynch that there were quite six kinds of eczema, requiring six different forms of treatment.

The Widespread Advertisement of Secret Remedies.

Mr. Henry Sewill, M.R.S.C.S.Eng., who also gave evidence on behalf of the British Medical Association, said his attention was first directed to the evil results of proprietary remedies in 1879, when a case came to his notice of a woman who was suffering from cancer which had become inoperable through delay. She had been treating it herself with a much-advertised ointment. He had come to the conclusion, from a careful examination of the question, extending over many years, that these preparations were fraudulent to a great extent; they inflicted an immense amount of unnecessary suffering, and gave rise to considerable mortality. The remainder of Mr. Sewill's evidence consisted of cuttings from a representative collection of the newspapers of the country, showing how widespread are the advertisements of proprietary medicines. Mr. Sewill said that this collection showed religious papers to be the worst offenders.

ROYAL SOCIETY TWO HUNDRED AND FIFTIETH ANNIVERSARY.

The celebration of the two hundred and fiftieth anniversary of the founding of the Royal Society this week has resulted in a general review of post-Baconian science. The President of the Royal Society, the Prime Minister, the Dean of Westminster, and many of the delegates who attended the celebration held during the week have each spoken of the progress of science as illustrated by the history of the society, and none of them has felt it possible to trace out even the broad lines of progress of any particular branch of science. The difficulty has been not the wealth of detail, but the wealth of grand principles discovered, a wealth making the task of synthesis too great to be attempted in the short space of time available at any sitting.

Reception by President and Fellows.

The essential business of the celebration was crowded into ten short hours on Tuesday. On Monday night the President and the Fellows received their guests informally in the rooms of the Society at Burlington House.

Service in Westminster Abbey.

The first formal recognition of the anniversary, apart from the visit of the President and the Treasurer to the King to present to him the memorial volumes on Saturday, was at noon on Tuesday at Westminster Abbey, when a special service was held. The Dean of Westminster (Bishop Ryle) preached the sermon, taking his text from Esdras, "Truth abounds and is strong for ever." Science, he urged, was truly a revelation, giving them instead of six days of creation a long vista of time, and continuity instead of repeated acts of creation. Truth was one, and the God who revealed Himself in the laws of evolution, of gravitation, and of the conservation of energy was the same God who revealed himself in love, forgiveness, and the gift of immortality. The lesson read was "Let us now praise famous men," and the special hymns "The spacious firmament on high" and "Now thank we all our God." The Fellows joined in neither hymn. With the present Fellows of the society standing at the shrine of their most illustrious dead, one could not but wonder what comments Pepys, their sixth President, would have made on the ceremony. In his *Diary* one might perhaps have read some such passage as "To the Abbey, where the Royal Society did celebrate the two hundred and fiftieth year of their founding, where a brave concourse of Fellows, and among them Arthur Balfour, the late Minister. But, Lord, to think that so brave a concourse should be wholly silent, were it not for one or two of their number, when the choir did sing, 'Now thank we all our God,' which methought a great pity that such men should be so void of music."

Reception of Delegates.

The formal reception of the delegates took place in the afternoon at Burlington House, academic dress being optional, as it was at the Abbey. After formally giving the delegates welcome, Sir Archibald Geikie, the President, traced the origin and early days of the society. With commendable foresight, he said, the early founders had taken advantage of the prevalent spirit of curiosity regarding the secrets of Nature and had gathered round them a company of three times their own number, comprising prominent representatives of the Church, of law, of medicine, of politics, and of the public services. Starting its career with a notable group of physicists and mathematicians, among whom were Robert Boyle and John Wilkins, it had ere long welcomed Isaac Newton into its ranks, published his immortal *Principia*, and annually elected him as its President for nearly a quarter of a century. The physical sciences had all along been strongly represented. It seemed but yesterday that James Clerk Maxwell's voice was heard in these rooms and that Stokes and Kelvin sat in the presidential chair. That the succession of leaders was still well maintained was shown by the presence among them of Lord Rayleigh, Sir William Crookes, Sir J. J. Thomson, Sir Joseph Larmour, and many others. Nor had the biological sciences been less prominent in the work of the society. From the early days of John Ray down to those of Charles Darwin, Hooker, Huxley, and Lister, every branch of biology had been illustrated and advanced by the Fellows. As science knew no restriction of country or language the Royal Society had from its earliest beginning cultivated friendly relations with fellow workers in research all over the world. The first list of original members included the name of Huygens, and between the society and other academies and universities there was close recognition. The confraternity of science, however, reached on that day the climax of its manifestation in their experience when they received delegates from so many countries, who, by their presence, expressed the sympathy and goodwill of the institutions they represented.

The delegates present numbered over 200, and the practice adopted was that a single delegate should speak for not more than three minutes for the institutions of a single country. In the course of the short speeches attention was directed particularly to the international character of the work undertaken by the Royal Society. The German delegates, in addition to their formal addresses, presented the society with a large bronze plaque on which was a civic crown with the inscription:

Regiae Societati Britannicae illustri scientiarum cultrici et Protectrici CCL Annos Feliciter Peractos pie congratulantur Universitates Germaniae, A.D. MDCCCCXII.

In presenting the address from Aberdeen University, and speaking on behalf of the Scottish delegates, Principal Dr. Adam Smith referred to Sir Archibald Geikie as one of the most beloved and honoured teachers and pioneers of research in Scotland.

Among the delegates was Professor James Geikie, representing Edinburgh University, the brother of the President. There were loud cheers as the professor was officially greeted by his brother.

Banquet.

In the evening the banquet was held at the Guildhall, among the medical men present being Sir T. Barlow, Sir R. J. Godlee, Sir William Osler, Sir T. Clifford Allbutt, Sir Henry Morris, Sir T. Lauder Brunton, Sir William

Macewen, Sir Ronald Ross, Sir W. B. Leishman, Sir J. Crichton-Browne, Sir J. R. Bradford, Professor I. P. Pawlow, Professor A. Crum Brown, Professor C. S. Sherrington, Professor Anderson Stuart, Dr. G. F. H. Nuttall, Dr. A. D. Waller, Dr. F. W. Mott, Mr. H. G. Plimmer, Professor E. H. Starling, and Sir William Ramsay. The toast of the evening was proposed by the PRIME MINISTER. The foundation of the Royal Society, he said, was the most vital, if not the most characteristic, act of Charles II. Whether the early interest which the society took in anatomical research was or was not due to the proclivities of their royal patron he did not know, but there was no doubt that Charles frequently asked the society for its advice. Mr. Asquith referred to the attention paid in the early days of the society to experiment. There was on record, for instance, the account of the man who had had a quantity of sheep's blood let into his body and had found himself much better, but the diarist who described it also described the man in question as being "just a little bit cracked." If one was inclined to laugh, it was a useful corrective to remember that it was under the auspices of Pepys that Newton's *Principia* was produced. Sir ARCHIBALD GEIKIE replied for the Royal Society, and emphasized the fact that the Royal Society had never been in receipt of any direct aid from the State. Viscount MORLEY, of Blackburn, proposed "The Universities at Home and Abroad." Professors PICARD, WALDEYER, and WINKLER replied. The ARCHBISHOP OF CANTERBURY proposed "The Learned Societies in the Old World and the New." Marchese E. PATERNO DI SESSA, Count K. A. H. MORNER, and Dr. ARNOLD HAGUE responded. The toast of "The City of London" was proposed by Principal PETERSON, and replied to by Sir T. VEZEY STRONG.

Entertainments.

On Wednesday the Duke and Duchess of Northumberland gave a garden party to the delegates at Syon House, and in the evening a conversazione was held at Burlington House. On Thursday the King (the Patron of the Society) and the Queen received the President and Council of the Royal Society and the Delegates at Windsor, and on the same afternoon the Fellows attending the celebrations were the guests of Their Majesties at a garden party at Windsor, the Royal reception at Windsor concluding the celebration.

IMPERIAL CANCER RESEARCH FUND.

THE annual meeting of the Imperial Cancer Research Fund was held on Wednesday, July 17th, the Duke of BEDFORD in the chair.

REPORT OF EXECUTIVE COMMITTEE.

The report of the Executive Committee recalled the fact that in the last annual report reference was made to the decision of the Executive Committee to contribute towards the cost of new laboratories which the Royal Colleges of Physicians and Surgeons had offered to provide in their new examination hall, in the form of a premium for a definite period of occupation, or by the payment of an annual rental. As the result of negotiations it was agreed to pay the sum of £5,000 for a period of twenty-one years' tenancy, with the proviso that, should the Royal Colleges for any reason find it necessary to determine the agreement before the expiration of this period, they would recoup the fund for the unexpired period at a proportionate rate to be actuarially calculated. The report continues:

The new laboratories are now completed and occupied, and it is satisfactory to be able to report that the general superintendent and his staff are entirely satisfied with them, and it may be stated that they are a great improvement on those hitherto used.

The lease of the farm at which the larger animals are kept and studied is shortly expiring, and the Chairman of the Committee was asked to negotiate for its renewal. There is little doubt that satisfactory terms will be agreed upon and that this work will continue.

At the meeting of the Executive Committee in March, the Honorary Treasurer handed in his resignation; and in spite of the Committee's request that he would reconsider his decision, Sir Henry Morris did not see his way to continue in office. In consequence, the Committee appointed Sir William Church to act as Treasurer until the meeting of the General Committee. The Committee cannot allow this resignation of Sir Henry Morris to be mentioned without placing on record their cordial appreciation of the immense services he has rendered to the cause of investigation of cancer. It was largely due to his energy and foresight that the fund was originally established, and his constant interest and careful administration of the finances have largely contributed to the sound position which the work has attained. The Executive Committee recommend to the General Committee to appoint Sir William Watson Cheyne, Bart., C.B., F.R.S., as Honorary Treasurer of the fund.

There has been during the year an unavoidable interference with the laboratory researches on account of the transference of the work from the old to the new laboratories, but in spite of this disadvantage the staff have prepared a Fifth Scientific Report which is now ready to be issued. The report consists of the following papers:

1. The Manifestation of Active Resistance to the Growth of Implanted Cancer.
2. The Nature of the Immune Reaction to Transplanted Cancer in the Rat.
3. A Cytological Analysis of the Reaction in Animals Resistant to Implanted Carcinomata.
4. On the Immunizing Power of the Placenta, Blood, Embryonic Skin, Mammary Gland, and Spleen of Different Species against Carcinoma of the Mouse.

During the year the following papers have been issued from the laboratories:

1. Intracerebral Transplantation of Malignant New Growths, *Folia Neurobiologica*, Bd. vi, No. 23, 1912.
2. Present Aspect of some Cancer Problems, *Worken van het Genootschap ter Bevordering van Natur Genees en Heelkunde te Amsterdam*, 11e Serie, Deel vii, Afl. 1, 1912.
3. New Contributions to the Theory of the Individuality of Cancer, *Zeitschrift für Immunitätsforschung und experimentelle Therapie*, December 16th, 1911.
4. Mice Immunized Subcutaneously are Resistant to the Implantation of Cancer in Internal Organs, *Lancet*, July 8th, 1911.
5. Abstract of Lecture before Medical Graduates' College and Polyclinic, *Lancet*, January 21st, 1912.

REPORT OF DIRECTOR OF LABORATORIES.

Dr. Bashford stated in his report that the statistical investigations had been continued in outlying parts of the empire and in India, where from December, 1907, to December, 1911, 2,014 fresh cases were reported, 463 being in vegetarian castes, 1,074 in those living on a mixed diet, while in 477 specific reference to diet was not made. The breeding experiments bearing upon heredity had been continued. From January, 1912, preparations were made in anticipation of the removal from the old to the new laboratories, and no fresh research was undertaken. These precautions enabled the move to be carried out expeditiously the last week in May. Dr. Bashford said the Fifth Scientific Report was concerned with the nature of the resistance which might be artificially produced to the inoculation of cancer and the bearing of the results on the biology of the tumour cell. The following aspects of the question were still under discussion:

1. Whether immunity or resistance can be produced only (*a*) by tumour tissue, or (*b*) the normal tissue of animals of the same species, or (*c*) by both tumours and normal tissue from other species as well.
2. Whether there are two types of immunity to be considered, an active immunity, in the production of which the whole organism reacts, or a second type in which a tumour already existing withdraws some specific foodstuff to such an extent that other growths are starved.
3. Whether the immunity produced by normal tissue is identical in nature with that produced by tumour.

Immunity.

Dr. Bashford pointed out that the papers published in the Fifth Scientific Report were additional evidence that tumour or normal tissue produced immunity only when it was derived from the same species of animal as that on which the test was made, and that the immunity produced by these substances was of the same nature. They demonstrated further that starvation immunity did not exist, and that all the observations so far made could be adequately explained by assuming the presence of an active immunity, in consequence of which the tumour cells were paralysed and rendered unable to obtain from the host the specific scaffolding of connective tissue and blood

vessels necessary for their development. It was shown also that during the development of resistance a reaction was in progress throughout all the connective tissues of the animal, although it was not possible to be sure of its mechanism. The tumours varied among themselves in two remarkable ways—(*a*) as regards their power to induce immunity (auto-immunity) in other animals, and (*b*) in their susceptibility to such immunity. These two factors played the predominating part in the spontaneous cure of transplanted cancer, and when healing did occur it was determined mainly by properties in the tumour cells themselves, by virtue of which they could excite reactions in their new environment inimical to further tumour growth.

Spontaneous Recession of Transplanted Tumours.

The spontaneous recession of transplanted tumours was first observed in the mouse, and it was now well known that it occurred in the rat; during the past year it had also been frequently observed in the case of a tumour of the rabbit which was being propagated in the laboratory. There could, therefore, be no doubt that it was a phenomenon of wide biological significance. Recession took place in spontaneous tumours, however, with much greater rarity, and observations extending throughout the past eight years had shown that in the mouse, among tumours whose malignancy had been demonstrated both clinically and microscopically, it occurred in scarcely 1 per cent. Resemblances could be recognized when the appearances seen during the process in spontaneous tumours were compared with those in propagable growths, and in both instances they suggested that its course was due to a disturbance in the relationship between epithelium and connective tissue, in the course of which the cancer cell, losing its aggressive character, was overpowered by the connective tissue. The study of healing in spontaneous and in transplanted tumours showed that the cure for cancer must be sought by obtaining a fuller knowledge of those properties of the malignant cell which rendered it susceptible to inimical influences and not merely by striving to induce these influences in its environment. The number of spontaneous cures occurring in a transplanted strain was determined by several factors of which some were resident in the tumour cells themselves. One of them was a change taking place in the cells themselves whereby they became more vulnerable to connective tissue invasion and overgrowth which put an end to their existence. This change, or its equivalent, could not yet be induced experimentally, but so far as the process of healing had been followed—for example, after the use of radium or adrenalin, no difference had been detected between it and spontaneous cure. In the case of transplanted tumours, the ultimate result was merely an enhanced frequency of auto-immunization due to the absorption of the tumours in the treated as compared with the control animals. Interference with continuous growth had been obtained only inconstantly and in very moderate degree for tumours naturally exhibiting a tendency to spontaneous healing, and not at all as yet for those reproducing more faithfully the features of natural cancer in their powers of progressive growth and their tendency to produce metastases in the animals inoculated. The differences between the tumour strains at either extreme were, however, differences in degree only, not in kind. From the small beginning with tumours easy of attack and at the bottom of the ladder, as it were, it was to be hoped that advance would be made, stage by stage, till the cells at the top of the ladder—those of the most virulent transplantable tumours and of spontaneous growths—might be rendered susceptible to changes in their environment and liable to extinction through the agency of these changes, even though they could not be made to succumb to direct attack alone. In this conclusion general agreement appeared to have been reached in different parts of the world, and in Germany and France efforts had already been made to obtain an elective action upon the tumour cells in a variety of ways by direct bio-chemical attack. This was a line of investigation which at present urgently required further following up.

Utilization of Foodstuffs by Tumours.

A fresh line of research had been opened up by the observation of certain tumour strains of a very special character, which stored up carbohydrates in a form recognizable microscopically as glycogen, and it was hoped that bio-chemical investigation combined with microscopical examination would throw some light upon the manner in which the tumour cells utilized food substances for their own purposes. As ample opportunity was given for designing and arranging the new laboratories, they are more commodious and better adapted to their purpose than the old, a special feature being that suitable provision was made for bio-chemical investigations. Dr. Bashford concluded with a tribute to the services which the late Sir Henry Butlin rendered to the investigations conducted in the laboratories.

REPORT OF ACTING HONORARY TREASURER.

The report of the Acting Honorary Treasurer for the year ending June 24th, 1912, stated that during that year the income from investments was £4,606 8s. 2d., and from contributions, including legacies, £1,305 10s. 6d. The expenditure on the researches during the same period was £5,988 5s. 9d. Thus the expenditure exceeded the fixed income from investments by £1,381 17s. 7d., and the total income by £76 7s. 1d. It was not satisfactory that the list of subscribers should remain so restricted, only ninety-two persons having sent a contribution. It is essential that the income of the fund should be increased, especially now that the new laboratories are occupied.

Sir WILLIAM CHURCH, in moving the adoption of the report, said the time occupied in the preparation of the Scientific Reports and the interruption of work caused by the removal of the laboratories from the old to the present Examination Hall had prevented any considerable advance being made in fresh lines of research. The breeding experiments had now taken a permanent form, necessitating a statistical survey of the material accumulated yearly. The survey in October, 1911, confirmed in every respect the figures given and opinions expressed as the result of the analysis undertaken in October, 1910, of their cancerous strains of mice, which was published in the Fourth Scientific Report. There were available for study 706 female mice, as compared with 562 in 1910. In those of remote cancerous ancestry, where cancer was not present in either the mother or grandmother, 25 carcinomata of the mamma developed in 283 mice, a percentage of 8.8. In those of recent cancerous ancestry—that was to say, where cancer was present in the mother or grandmother, or in both—71 carcinomata occurred in 423 mice, or 16.8 per cent. It was to be hoped that the numbers at the end of this year would permit of some conclusions to be formed as to how far a hereditary predisposition to the disease exists. Sir William Church, after giving a lucid summary of Dr. Bashford's report, concluded by alluding to the losses they had suffered during the year. Death had removed Sir Julius Wernher, a most liberal supporter of the fund, and Lord Lister, who, although never taking an active part, was fully in accord with the manner in which the work of the fund was carried on. From the General Committee they had lost Mr. Archibald Coats, an original member and generous subscriber. Sir Henry Morris, who had been treasurer since the initiation of the fund, and had done so much by his care and influence to place it in a firm financial position, retired from office, but remained on the General Committee. They also had to deplore the death of Sir Henry Butlin, who to the last gave the committee most valuable assistance from his great pathological and practical knowledge of cancer.

Sir JOHN MCFADYEAN, who seconded the motion, said that our knowledge of cancer formation was much more definite and precise than it was ten years ago, and to that advance of knowledge no institution had contributed more than the Imperial Cancer Research Fund. The aim of investigation was the discovery of the cause of cancer and of the means of preventing and curing the disease. That goal could scarcely be said to be yet in sight; but if it were ever reached, it would not be by accident but by carefully planned researches. The resolution was carried.

Sir W. Watson Cheyne was elected Honorary Treasurer, and Dr. Bulloch was elected a member of the Executive Committee.

The DUKE OF BEDFORD, in reply to a vote of thanks, said the total amount annually subscribed to the fund was £210 3s. 6d. It would be a disgrace to humanity if investigations in this country were to be crippled by want of funds.

LONDON SCHOOL OF TROPICAL MEDICINE.

IT was announced in the JOURNAL of July 13th that an appeal had been issued by a Committee formed at the request of Mr. Lewis Harcourt, Secretary of State for the Colonies, for funds to be applied to the extension and development of the London School of Tropical Medicine. The Right Hon. Austen Chamberlain is the Chairman of the Committee, which includes the Duke of Marlborough, Lord Lansdowne, Lord Crewe, Lord Selborne, Lord Curzon of Kedleston, Lord Iveagh, Lord Strathcona, Lord Mount Stephen, Lord Cowdray, Sir Edward Grey, Mr. Harcourt, Mr. Joseph Chamberlain, Mr. Alfred Lyttelton, Sir J. West Ridgeway, Sir Walter Hely-Hutchinson, the Lord Mayor, General the Hon. Sir R. Talbot, the Hon. N. Charles Rothschild, the Hon. Sir Richard Solomon, Sir Frank Swettenham, Sir Frederick Lugard, Sir Matthew Nathan, Colonel Sir P. Girouard, Sir Patrick Manson, Sir Owen Philipps, Sir W. Bennett, Sir William Treacher, Mr. Astor, M.P., Mr. A. E. Aspinall, Mr. Otto Beit, Mr. James Cantlie, and Mr. R. K. Magor. The sum of £100,000 is needed to provide an adequate endowment fund, to make necessary additions to the laboratories and buildings for the accommodation of the increasing number of students, to provide for the active prosecution of research, and to establish a small nursing home for civilians suffering from tropical diseases who cannot afford to procure for themselves the special treatment and nursing which their condition requires.

It is almost needless to recall to our readers that the school was founded by the Seamen's Hospital Society in 1899 under the auspices of Mr. Joseph Chamberlain, then Colonial Secretary. The school has received the warm support of successive Secretaries of State both for the Colonies and for India. In proof of the practical value of the research work that has been done in the province of tropical disease, Mr. Austen Chamberlain points to the great reduction of malaria in the Federated Malay States, in Hong Kong, and in the zone of the Panama Canal; to the virtual extinction of yellow fever in Havana, and to the diminution of deaths from sleeping sickness in Uganda. He refers also to the fact that during the period from 1904-1911 the invaliding rate among the European officials in British West Africa fell from 63 per 1,000 to 25 per 1,000, and the death-rate from over 27 per 1,000 to less than 14 per 1,000.

In all this work the London School has borne its share as far as its means allowed, but those means are very modest and quite insufficient for its present needs. Some help has been received from the Government and more from public subscriptions. With the money obtained in this way and subsequent public benefactions, buildings have been erected and equipped with the latest scientific appliances, and a library and museum and special wards for the treatment of tropical diseases, which bring up to 50 the number of beds available in the hospital, have been built. The capital expenditure for these purposes has amounted to £45,000. After enumerating other sums of money received from various sources, Mr. Chamberlain goes on to say that additional laboratories and residential quarters for at least 20 more students are urgently required. The number of those who have attended the school has rapidly and satisfactorily increased since its commencement. In 1900 they were 75; in 1911 they were 159, or more than double. Altogether 1,438 students have passed through the school, 692 sent by Government, 512 private students, 61 foreign students, and 173 missionaries. There were 64 entries during the current session, and in view of the activity which is now being shown in the development of the tropics, these figures will no doubt be increased in the near future.

The present laboratories are already overcrowded. In the last ten years the school has sent investigators to the West Indies, East and West Africa, the Soudan, Fiji, Ceylon, Bagdad, and other places. At present a highly qualified expert in each of the departments of protozoology, helminthology, and entomology is attached to the school, but a considerable portion of their time is occupied in tuition work, and it is desired to raise a sufficient sum to enable these appointments to be duplicated, and provision to be made for keeping an expert in each branch continuously at work in the tropics. Moreover, it is felt to be most desirable to make provision for the proper treatment and nursing of men who have been engaged in our rapidly growing colonies, in civil administration, in railway construction, trading companies, plantation work, and mines. Only a relatively small proportion of these are able to meet the expenses of a serious and prolonged illness, and very few of them can bear the cost of a nursing home, and of medical or surgical treatment by the limited number of practitioners in this country who have had the opportunity of becoming experienced in the management of tropical disease. Provision of the kind in view has been made for naval and military officers in the Convalescent Home at Osborne, but there is none at present for the civil administrator or employee whose health has been sacrificed in the government or development of the territories for whose future we have made ourselves responsible.

A meeting was held at the Foreign Office on July 17th, when Mr. CHAMBERLAIN announced that Mr. Otto Beit had promised to contribute £5,000 when the fund reached £20,000. Mr. Waldorf Astor had offered £1,000 if nine other donations of equal amount could be collected, and two days previously Mr. Chamberlain had received the ninth sum of that amount from an anonymous donor. Within the last two or three weeks two or three members of the Committee had collected between £17,000 and £18,000.

Sir EDWARD GREY moved a resolution commending the appeal to all interested in the development of the tropics. This was seconded by Lord CREWE, supported by Professor BLANCHARD of Paris, and carried unanimously.

On the motion of Mr. LEWIS HARCOURT, an Executive Committee was formed to carry out the appeal.

LITERARY NOTES.

IT is generally admitted that to Servetus belongs the honour of having first described the pulmonary circulation. On the occasion of unveiling a monument to that unhappy victim of Calvin's intolerance at Vienne last October, Professor Charles Richet asked: "By what miracle did Servetus, who had not, like Harvey, practised vivisection, who had not, like Vesalius, dissected, who had not, like R. Colombo, taught anatomy, who had not, like Estienne, drawn the human body, upset the doctrines of Galen and of the masters, conceive, explain, and divine that the blood leaves the right ventricle to return, after a long circuit, to the left ventricle?" In the June number of *Janus* Dr. L. Cheinisse, of Paris, takes exception to the statement that Servetus had never dissected. He argues that in the famous passage in the *Christianismi Restitutio* in which the pulmonary circulation is described there is clear proof that he had dissected. He says: "*Ut vero totam animae et spiritus rationem habeas, lector, divinam hic philosophiam adjungam, quam facile intelliges* si in anatome fueris exercitatus." Moreover, Haller says that Servetus was the assistant of Gunther, as Vesalius was. Speaking of him, he says (in his *Bibliotheca Anatomica*): "*Acris ingenii vir, et anatomes minime imperitas, quem J. Guintherus*, secundo a Vesalio loco inter eos discipulos numerat, qui sibi adjumento funerint." Challenged as to his statement, Professor Richet replied by admitting some exaggeration; but he goes on to maintain that Servetus can have dissected very little. "If he dissected," he says, "it could not have been before 1534 nor after 1537, and, as he published his *Geography of Ptolemy* in 1535, he could only have worked on dead bodies in the second half of 1536 (perhaps the whole of 1536). It will be allowed that this is not much to upset the doctrine of the masters and to establish what Vesalius himself, notwithstanding his long investigations, failed to see—the fact that the interventricular septum is imperforate." The arguments on each side are fairly strong, and we must leave readers to form their own conclusions. It has always seemed to us singular that a discovery of such importance should have been buried in a dull theological treatise, as if its author thought so little of it that he was indifferent as to its fate. Flourens, in his *Histoire de la Découverte de la Circulation du Sang*, expresses wonder that the confused writer of so absurd a book as the *Christianismi Restitutio* should, for the few pages when he speaks of the pulmonary circulation, have become admirably lucid. Theologians might, however, have recourse to Touchstone's reply churlish, and "disable the judgement" of scientific men as to works of divinity.

British Medical Journal.

SATURDAY, JULY 20TH, 1912

MEDICAL RESEARCH AND COLONIZATION.

As stated in the JOURNAL of July 13th, an appeal was recently issued by a committee formed at the request of Mr. Lewis Harcourt, the Colonial Secretary, on behalf of the London School of Tropical Medicine. The substance of this appeal will be found at p. 131. The Chairman of the Committee is Mr. Austen Chamberlain, whose name will recall the leading part taken by his illustrious father in the foundation of the school and the promotion of research in the domain of tropical diseases. The suggestion came from Sir Patrick Manson, but had it not been taken up by a statesman with a breadth of outlook wide enough to enable him to appreciate its importance, it would have fallen, like so many suggestions for the promotion of science, among the thorns of political strife. It was fortunate indeed for this country that it had at the time a man who recognized that in the prevention of tropical disease lay the best hope of the maintenance and development of a large part of the empire. Here was an object which, while not likely to stir the pulse of the average voter, made strong appeal to all who could see beyond the narrow interests of faction. In founding the school Mr. Chamberlain was inspired by the feeling that this country owed a duty to its tropical and subtropical dependencies and to those who do its work in climes always dangerous and often deadly to Europeans. The Colonial Secretaries who have followed Mr. Chamberlain have shown an active interest in the school—none more so than Mr. Harcourt. The foundation stone of the Albert Dock Hospital, with which the school is connected, was laid on July 15th, 1889, by King George, then Duke of York, who would have shown his continued sympathy with the objects of the school by laying the foundation stone of a new wing on July 17th had not His Majesty, on the advice of his Ministers, given up his intended visit to the East End on that day.

The institution has proved itself worthy of the distinguished auspices under which it began its career. We remember when Sir Patrick Manson delivered his famous lecture at St. George's Hospital, in which he pointed out the urgent need of facing the pathological problem of the tropics. He was then looked upon by the leaders of the profession as a dreamer of dreams, and his suggestions as to the parasitic origin of many tropical diseases were treated as romance. Happier than many scientific pioneers, he has lived to see his dreams come true. He has been able to watch the acceptance of his views and the proof of his theories established by investigators who, drawing inspiration from his teaching, were guided to discoveries of the most far-reaching importance. With the exception of Listerian surgery, there is nothing in the history of medicine that can be compared with the extraordinary development of tropical pathology that has taken place in less than twenty years. The fruits of the labours of the patient investigators who have chosen this as their field of work are already abundant and valuable enough to encourage the confident hope of still greater harvests in future. Taking first malaria, which claims a larger tribute of human life than any other disease, we may quote the striking illustrations given by Mr. Austen Chamberlain. In Klang and Port Swettenham, two towns within the protected Federated Malay States, remedial measures were commenced in 1901. The deaths from malaria were in 1901, 368, and in 1905, 45. In the surrounding districts, where no measures were taken, the deaths for these years were respectively 266 and 351. In Hong Kong remedial measures were commenced in 1901. In that year the admissions to hospital were 1,294, and the deaths 132. In 1905 the admissions were 419, and the deaths 54. In 1904 the United States took over the administration of the zone of the Panama Canal; the deaths from malaria, which in 1906 were 821, had sunk in 1908 to 282. By the persevering destruction of the causes of the disease, Colonel Gorgas has transformed the zone from one of the deadliest spots on the face of the earth to a healthy place. It was not the want of engineering skill that made the French fail in cutting across the isthmus, but the deadly parasites which made labour impossible. The success of the Americans may justly be claimed as a triumph of scientific medicine. In the case of yellow fever the results have been still more remarkable. In the city of Havana, 35,952 persons perished of yellow fever between 1853 and 1900. The United States Government commenced remedial measures in 1900, and in 1907 only one case of yellow fever was reported. In the case of another terrible scourge, sleeping sickness, steps have been taken in Uganda during the last three years to stamp it out. In one district alone an epidemic had destroyed some 200,000 people out of a total population of 300,000. In 1907 the deaths in the kingdom of Uganda numbered less than 4,000, in 1908 they fell to 1,700, and in 1910 to 1,475.

In the work of research which has led to such brilliant results, the London School of Tropical Medicine has borne its share as far as the means at its disposal would allow. But although it has done excellent service in teaching, its activity in the field of investigation has been sadly crippled by want of funds. It has not had the advantage of such lavish benefactions as the Liverpool School, with which it competes in friendly rivalry, has had. This is a reproach to the richest city in the world, but the explanation probably lies not so much in the indifference of Londoners as in the vast size of the capital and the consequent dispersal of the interests of its inhabitants among innumerable different objects.

The School has, indeed, received a considerable amount of support both from the public and from Government. At banquets at which Mr. Chamberlain presided in 1899 and 1905, £21,000 was subscribed. of which the Government contributed £3,530. During the last seven years it has received from the Tropical Diseases Research Fund, formed from contributions from the Imperial Government and the Governments of some colonies and of India, some £13,000 for special work in certain branches of tropical medicine, for which separate laboratories have recently been provided. The private benefactor has also given liberally, and £10,000 bequeathed by the late Lord Wandsworth to Sir William Bennett, to be applied in furtherance of medical research, has been given to the School for the foundation of a scholarship. Some of the Crown Colonies which realize the value of the training given to students

who intend to work in their territories contribute nearly £900 a year.

But in view of the responsibilities created by the addition of new territories in recent years the importance of tropical medicine has largely increased. Each region has its indigenous diseases, and if our dependencies are to be successfully administered the first step is to make them habitable by white men. This can only be done by the acquisition and the application of special knowledge, and it is for this that the School of Tropical Medicine exists. It is for the enlargement of its opportunities of treating the sick and training doctors for tropical practice and investigators who will devote themselves to the acquisition of the knowledge required for the successful warfare against tropical diseases, that the sum of £100,000 is required. It is earnestly to be hoped that the response to Mr. Austen Chamberlain's appeal will be generous; contributors may feel confident that their money will be spent for truly patriotic purposes. If so much has been accomplished in so short a time and with such small means, what may not be hoped from sustained efforts adequately supported? Those who can speak with authority are confident that by human effort the rate of mortality from tropical disease can be greatly reduced, and the strength and efficiency of European residents in unhealthy climates can be sensibly increased. Successful colonization depends before everything on the advance in knowledge of the diseases which are among its most formidable hindrances.

THE PLENDER REPORT.

No one who knows the true feelings of the medical profession will believe that the distaste with which it views the medical side of the insurance scheme would be transformed into hearty approval merely by the concession of its demands as to remuneration. The causes of dissatisfaction lie deeper, and are rooted in the belief that the whole scheme was conceived without adequate knowledge or investigation; but though this is true, nevertheless the question of remuneration has bulked large in the mind of the Chancellor of the Exchequer, no doubt because he has to find the wherewithal. He took up the position that since the medical profession required that the remuneration should be increased above the 6s. allowed for medical attendance and medicine in the actuarial report of May, 1911, he had the right to demand that the profession should provide him first with facts and figures as to contract practice, and secondly, with evidence as to the amount of remuneration now received by the profession from practice among the classes who will come under the Insurance Act. The State Sickness Insurance Committee put the figures it had collected as regards contract practice before the Chancellor of the Exchequer and Commissioners for their use and criticism. But on the second point the British Medical Association had no figures, and the Chancellor of the Exchequer asked the help of the State Sickness Insurance Committee to get these figures. The Committee did not feel justified in refusing its sanction, and the report of the investigator, Sir William Plender, was issued on July 11th, and published in the issue of the SUPPLEMENT for last week. It should be said that the towns were so far agreed towns that three were suggested by the Commissioners and three by the State Sickness Insurance Committee, but that the report was sent to the press by Mr. Lloyd George before the Committee which had helped him to get the figures had had an opportunity of reading it. The text for the report given by the Chancellor was, "I want to ascertain what the doctors are paid at the present moment for the kind of work which they will be expected to do under the Insurance Act."

The State Sickness Insurance Committee, which received Sir William Plender's report only a week before it had itself to report to the Annual Representative Meeting, has had no opportunity of adequately considering it. It, however, appointed a small subcommittee, which has drawn up some preliminary observations, which are published in the SUPPLEMENT of this week, and the report, together with the observations of the subcommittee, will no doubt be considered by the Representative Meeting. As will be seen the Committee finds fully justified the warning it gave last month to the effect that the information obtained as the result of the inquiry would probably be inadequate and might be misleading. We shall here confine ourselves to a few observations on the conduct of the inquiry and the general structure of the report, referring our readers for fuller information to the observations of the subcommittee of the State Sickness Insurance Committee.

In the report two years, 1910 and 1911, are dealt with, but the result in both years is practically the same, and for simplicity it will be convenient to take 1911 only. In the first part of the report three things call for notice. First, the report includes information as to hospitals and other charitable institutions and Poor Law infirmaries, and in the last table (page 91) the figures for these are given for inside the towns as 71,150. Those under the Poor Law should not be included in any calculation as to the Insurance Act, but, as no separate figures are given, the ambiguity presented by the report in this respect cannot be cleared up. Secondly, as to the population, an important factor in the calculations, because the number arrived at is the divisor used in working out the averages, the investigator tells us that the figures have been adjusted to correspond with districts adjoining, or contiguous to, municipal areas. This evidently means that the figure 408,580 includes the "inside" and certain parts of the "outside" areas, but not those shown separately in the second table of the report; it includes the 71,150 in hospitals and Poor Law infirmaries. A third thing hard to understand in the first part is how the number of practitioners is arrived at; usually 265 − 96 = 169, but in the first table the number of practitioners is given as 171.

In this first table, under D, "Public and other Medical Appointments," is a sum of £8,259; of this amount, £2,775, we are told, is included as part-time payment, so that we get a total of £111,133 (£113,908 − 2,775), which, divided by the given population, 408,580 less 71,150 (institutional patients), yield a population of 337,430, giving 6s. 7d. per head of population instead of 5s. 7d., the figure printed in red ink in the original report, in italics in the SUPPLEMENT (p. 90). In getting the 4s. 2d. per head of the population (which the Chancellor pounced on in his speech last Saturday, carefully making no reference to the higher figure of 5s. 7d.) why did the investigator disregard (C) Certificates and Reports, £2,892, (E) Fees for attending Coroners' inquests, etc., £494, and (F) Other items of medical service, £418? The sums received under these heads yielded a total of £3,804. If we take the total of receipts for visits at patients' houses and attendances at surgeries (£82,432), deduct a proportionate amount for bad debts (say £5,615), and add £3,804, we get £80,621; divided by the net population, 337,430, we get 4s. 9d. per head of

population. In the table headed "Gross Remuneration for Residents Outside the Towns," the amount received for attendance and visits is given as £11,853, deducting a proportion of bad debts, say £153, leaves us £11,700; if to this we add (C) certificates and reports, £441, (E) fees for attending coroner's inquests, etc., and (F) other items of medical service, £42, we get a total of £12,183 for work done by the doctors outside the towns, excluding operations, etc.; this sum adds nearly 9d. per head of population inside, and this added to the 4s. 9d. arrived at above, makes the sum of 5s. 6d., not 4s. 2d. We are told, moreover, that Dundee is different from the other towns, because in Dundee (and what is true of Dundee is true of most towns in Scotland) the doctors do not supply medicines to the patients. The investigator tells us that the population of Dundee is 164,937, and as it has been generally assumed, and the Chancellor of the Exchequer has accepted the assumption, that the price of drugs per person is to be 1s. 6d., we have in Dundee a population of 164,937, and this figure multiplied by 1s. 6d. gives us 247,405 shillings, or 9d. per head of the whole population of the five towns. If we then take the amount found per head from the first table of the report, as 4s. 9d., plus the 9d. received from the residents outside the town, plus the 9d. that should be added for drugs, etc., on account of Dundee per head of the population, we have a total of 6s. 3d. per head of the population as against the investigator's figure of 4s. 2d. Lastly there is this note in the report, namely, "that the above income does not include fees received by non-resident doctors for attending patients inside the areas of the selected towns." Nothing is allowed for this, and there is no way, seeing that the investigator has given us no figures, of arriving at any accurate sum; but if we allow 2d. per head of population—which in all probability is somewhere near the mark—we, on adding this to the 6s. 3d., arrive at a grand total of 6s. 5d. per head of population in these areas, as compared with the investigator's 4s. 2d., quoted by Mr. Lloyd George and his henchmen in the press.

There is no doubt whatever that the payment of a fee is a deterrent to calling in the doctor, and this is abundantly shown when we compare the number of attendances given to patients who will come under the Insurance Act, but are not at present being attended as contract patients, with the results obtained in the careful investigations of the British Medical Association on contract practice which were laid before the Chancellor of the Exchequer for his consideration and criticism. In that report it was clearly shown that the average number of attendances on each patient per annum was 5.5. If, however, we take the investigator's figures for these five towns and add together the attendances—537,185 inside the towns and 25,278 outside the towns—and divide them by the true population of 337,430, we find that the average attendance is nearly 1.7. If we take the figure 4s. 2d. per head of population given in the report, though it is an erroneous one, and say that if 1.7 gives 4s. 2d., how much should be given for the increased work which will follow upon these persons becoming insured persons and bring up their attendance to 5.5, as established by the Memorandum of the Association, we find that instead of 8s. 6d. per head, the sum ought to be 13s. 6d. In working out the capitation fee of 8s. 6d. per head in the towns on payments per attendance, the State Sickness Insurance Committee came to the conclusion that 2s. 6d. per visit and medicine and 2s. for consultation and medicine at the surgery was a true equivalent, but they also came to the conclusion that in all probability there would be, in an ordinary doctor's practice, three consultations at the surgery to two domiciliary visits, so that we would have 2 multiplied by 2s. 6d. and 2s. multiplied by 3—altogether 11s. for 5 interviews with the doctor. This would give an average of 2s. 3d. for visits at patient's house and attendance at doctors' surgeries, including medicines; but if we take the figures in the report—namely, £82,432, less bad debts *plus* (C), (E), and (F)—we have a total of £80,621, which divided by 537,185—the number of visits—gives us 3s., compared with 2s. 3d., the equivalent of a capitation rate of 8s. 6d. The Chancellor of the Exchequer said in his speech last Saturday that Sir William Plender's report showed that each doctor, "good, bad, and indifferent," made in these five towns £720 per annum. Now, where does the Chancellor get his £720 from? One would have thought that in a simple matter like this, with the expert help he has at his command, the figure he gave would have been accurate. When he mentions this sum he does not say how he arrives at it. But if from the report itself we take the gross income of the doctors from residents inside and outside the towns, we have, after the deduction of bad debts, a gross income of £136,201; this divided by what appears to be the accurate number of practitioners, namely, 169, gives us, in round figures, £806 for each doctor.

The figures speak for themselves; it is clear that the deductions made by the investigator and accepted by the Chancellor are not substantiated by the report itself. An investigation like this, which could have been carried out in plenty of time before the introduction of the bill, so that the report could have been thoroughly analysed, has been forced through in a time of great stress and hurry, and bears on its face inaccuracies which would condemn any report. The deductions that have been made from it are one-sided and incorrect, and the use made of it by the Chancellor of the Exchequer shows very distinctly that he is willing, without submitting it to thorough inquiry by his own experts, and without waiting to hear the criticisms of the Association, to come to unjust and ungenerous conclusions on a matter vital to the interests of a great profession and to the health of the community.

THE ROYAL SOCIETY AND CHARLES II.

MR. A. C. A. BRETT, in his *History of Charles II and His Court* (Methuen and Co.), quotes the following description given by Cosmo III, Grand Duke of Tuscany, in his *Travels*, of a meeting of the Royal Society in 1664–69: "The President sits in an elbow chair in the middle of the table of the assembly, with his back to the chimney, and has a large silver mace, with the royal arms, lying before him, with which it is customary, for the mace-bearer, or porter of the academy, to walk before him. He has a little wooden mace in his hand, with which he strikes the table when he would command silence. The secretary sits at the head of the table, the others taking seats indifferently on backed wooden seats in two rows; and if any one enter unexpectedly, after the meeting has begun, every one remains seated, nor is his salutation returned, except by the President alone, who acknowledges it by an inclination of the head, that he may not interrupt the person who is speaking on the subject or experiment proposed by the secretary. They observe the custom of speaking to the President uncovered, waiting from him for permission to

be covered." Butler ridiculed the Royal Society in particular and scientific inquiry generally, in the "Elephant in the Moon." The following is his account of their labours:

> These were their learned speculations,
> And all their constant occupations,
> To measure wind, and weigh the air,
> And turn a circle to a square;
> To make a powder of the sun,
> By which all doors should b' undone;
> To find the North-West Passage out,
> Although the farthest way about;
> If chymist from a rose's ashes
> Can raise the rose itself in glasses?
> Whether the line of incidence
> Rise from the object, or the sense?
> To shew th' elixir in a bath
> Of hope, credulity, and faith;
> To explicate, by subtle hints,
> The grain of diamonds and flints,
> And in the braying of an ass
> Find out the treble and the bass;
> If mares neigh alto, and a cow
> A double diapason low.

Charles II was much interested in science, especially in chemistry, natural history, and mechanics. He had a laboratory built for him by a French professor in St. James's Park, and a private "elaboratory" under his closet at Whitehall filled with the "chymical glasses" and other apparatus which puzzled Pepys. There the King spent many hours with Sir Robert Moray. *Evelyn's Diary* is full of references to conversations with the King about clocks, watches, bees, Saturn, the diarist's projects, and many other things. The King kept a menagerie and aviary in St. James's Park, and paid much attention to horticulture. He witnessed, if he did not actually perform, dissections of the human body. In a letter from Sir Charles Lyttleton to Christopher Hatton, dated July 25th, 1676, there is the following passage: "Here is a Welshman who pretends to cure any wound whatsoever in the bowels or any part, except the heart, in a few houres . . . Severale pigges, kidds and chickens have, in the King's presence, been run into the bowells and through the head with knives and hot irons and cured in a short time by this man's medicines." When, as Grammont relates, a lady had the misfortune to be delivered of a child in the ballroom at Whitehall, the little body was carried off before the jesting courtiers to the King's "elaboratory" for examination. Valentine Greatrakes, the Irish "stroker" and faith healer, was invited to work his wonders before the Court in March, 1666. It is related that he did things "beyond the power of Nature." One would like to know what Charles thought of it all. It is perhaps significant that Greatrakes soon afterwards returned to Ireland and gave up his healing manifestations.

PERSISTENCE OF LIFE IN DETACHED TISSUES.

SOME results of an investigation which is being carried on by Dr. Alexis Carrel at the Rockefeller Institute, on the continuation of life in tissues separated from the organism, have been reported by M. Pozzi to the Académie de Médecine in Paris. The results are sufficiently remarkable, but the possibilities which they open up have been greatly exaggerated in some of the newspapers. Last January M. Carrel reported to the Académie that portions of connective tissue, when placed in a suitable medium, could live and develop outside the body for a long period. At the time of that note the longest period for which they had been kept free from microbic infection was fifty days. In his more recent communication, M. Carrel relates further and more successful experiments carried out during the ensuing four months. He has made observations on the rapidity of the growth of the detached tissues, on the increase in their size, and on their functional activity. Experiments were made on portions of the heart and blood vessels of the chick from the seventh to the eighteenth day of its development. The small pieces of the tissue removed and the cultures resulting therefrom were washed every third or fourth day for a minute or two in Ringer's solution, and then transferred to another portion of medium. The tissues primarily removed, and the new growth derived from them, underwent thirty-nine to forty-three passages, and some of them were still active at the end of more than four months of life *in vitro*. The fragments of tissue were observed to grow, the rapidity of growth being influenced by slight variations in the composition of the medium in its osmotic pressure, in the temperature, in the quantity of plasma surrounding the tissue, in the form of the culture, and in the frequency of the passages. In some instances the rate of cellular proliferation increased with the age of the cultures. In one experiment during the course of the third month a fragment of heart muscle surrounded itself in sixty hours with a dense layer of cells, which covered a surface sixty-four times greater than itself. At the end of the fourth month the connective tissue cells increased much more rapidly than at any other period. During the first month of the life of the tissues *in vitro* the cells multiplied rapidly at the periphery of the fragments, but after each passage the central part diminished and a number of dead cells were eliminated, so that the total mass diminished. By the beginning of the second month the diminution ceased and increase in size began. Of the 16 cultures made on January 17th 5 survived at the end of the second month, but 1 was killed by infection at the beginning of the third month; the other 4 cultures were still in full activity, and during that month they increased so much in size that it was necessary to divide them, and in this way they gave origin directly or indirectly to more than twenty new cultures; the total amount of the tissue thus obtained was at least fifteen times larger than at the commencement of the third month. After a diminution in the rate of increase during the earlier part of the fourth month it again became rapid, and at the beginning of the fifth month the greater number of the cells were amœboid, and the surface cultures were much larger. Portions of the plasma containing growing cells were detached and fresh cultures made and treated in the same way, whereupon the cells multiplied with great rapidity. In order to study the retention of the functional activity of the tissues fragments of the heart were chosen. Repeating experiments made in December, M. Carrel on January 17th, 1912, commenced a fresh series. He took a fragment of the heart of the embryo chick on the seventh day and placed it in plasma; it quickly surrounded itself with a circle of connective tissue cells, but the pulsations, which at first were regular and strong, diminished after a few days, and for over a month the fragment remained motionless. On February 29th the culture, which had already undergone fourteen passages, was dissected, and the central fragment placed in a new lot of medium. After the fifteenth passage it was observed to contract rhythmically, and the pulsations were as strong and as frequent as on January 17th. They numbered from 120 to 130 a minute. During the months of March and April the fragment continued to beat vigorously from 60 to 120 a minute, but as the growth of connective tissue became more and more active it was necessary before each passage to remove the sheath of new tissue which had formed around the muscle; on April 27th the fragment was beating 92 times a minute, the contractions being regular and moving the whole mass of the tissue and the neighbouring part of the culture. On May 1st, when the pulsations had become feebler, the culture was submitted to its thirty-fifth passage, and in doing this was accidentally destroyed. M. Carrel's general conclusion is that since cultures of connective tissue continue to live and rapidly increase as late as the beginning of the fifth month of their existence *in vitro*, and since a fragment of the heart of the chick beat normally more than three

months after its extirpation, it follows that tissues separate from the organism can be permanently preserved in a living state.

THORIUM "X" POISONING.

In a recent article some account was given of the therapeutic action of thorium X, and of the endeavours at present being made to find a substitute for radium equally efficacious but less costly. Thorium X and actinium appear to possess this qualification. The history of the application of the Roentgen-ray apparatus has unfortunately been marred by cases in which serious damage has been inflicted to the tissues both of the experimenter and of the patient. Greater experience has led to greater caution and to the employment of certain protective arrangements whereby it has been found possible to utilize x rays with a fair degree of safety. With the knowledge of the serious dangers attending the use of these rays, it is somewhat surprising that emanations from radio-active substances have proved comparatively harmless; but a case recently reported by Dr. Gudzent[1] shows that some danger exists. A woman, aged 58, had been suffering from chronic arthritis. She was somewhat corpulent, but the internal organs were sound, save that she had complained of some palpitation shortly before admission. At first Dr. Gudzent treated her with iron, arsenic and quinine, together with radium compresses, but no improvement took place. He therefore injected a dose of thorium X solution, representing 900,000 Maché units. The patient complained of pain in the hands after the injection, but otherwise no ill effects were noticed; nine days later 550,000 Maché units were injected, again without any definite improvement. The third injection, this time of 10,000 Maché units of thorium A, was followed by a slight feeling of sickness and rise of temperature, which rapidly disappeared. The leucocytes tended to increase in number after this injection. The results of the injections having been so unsatisfactory, a fourth of 3,000,000 Maché units of thorium X was given. She remained in good general health for three days, and then left the hospital at her own desire. Four days later she sought readmission on account of pains in the abdomen, diarrhoea, and weakness. The temperature rose to 102.8° F. and the pulse-rate was about 105. On the following day a group of lymphatic glands under the sterno-mastoid muscle became inflamed. The diarrhoea persisted, and two days later became blood-stained. The leucocytes sank to 312. Blood was vomited in the night, and, in spite of all the remedies which Dr. Gudzent could apply, the woman died seven days after her admission on the second occasion. It would seem that the thorium X in full dose had given rise to an illness characterized by acute haemorrhages from the mucous surfaces. Orth and Bickel have found that dogs may be poisoned in the same way. The late onset of symptoms was also noted in the experimental cases. It must further be pointed out that the dose, although high, cannot be regarded as heroic. The same amount has been given many time without harm to other patients, and in animal experiments still higher doses have been tolerated with ease. The patient was, therefore, unusually intolerant to large quantities of the radio-active emanation. Time alone can determine whether this intolerance is of rare occurrence or not. We trust that it may be so.

[1] *Berl. klin. Woch.*, May 13th, 1912.

THE SPECIFICITY OF THE OPSONIC INDEX.

Biological reactions are rarely so specific that none at all is obtainable save with the material toward which the reaction is directed. We know that haemolysis takes place in the blood of nearly related animals when the haemolysin is prepared from the blood of one species. But in this case, or in that of the precipitins, it has been ascertained that a positive reaction indicates the nature of the cells dissolved or the protein precipitated. There is therefore biological specificity within narrow limits. The question whether opsonin is specific cannot be decided biologically, since normally the leucocytes of a person or other animal not infected with the bacterium in question act as phagocytes to some of the bacteria. But in so far as opsonin is evidenced by the behaviour of the opsonic index a test of specificity may be applied, and it would then be more rational to speak of the specificity of the opsonic index. In the Dresden Opsonic Laboratory Professor Strubell has worked at this problem, and has brought to light some interesting facts. He has shown that iodides and bromides, which are capable of producing acne, alter the opsonic index of the serum toward staphylococci within fifteen minutes of being taken. The index reaches its lowest point within half an hour or an hour, and gradually returns to the normal level in from six to twenty-four hours, though it may take longer. He states that bromide or iodide acne responds well to staphylococcus vaccine, and that the vaccine prevents the onset of the acne altogether. As to the way which the iodides and bromides act, he shows[1] that it is not merely a salt action. Sodium chloride is incapable of altering the index. Next he determined that such substances as urea can produce the same result. Potassium arseniate raised the opsonic index towards staphylococci and tubercle bacilli in the case of two of his assistants, and some action was obtained in dogs and rabbits treated with salvarsan. It therefore appears that the alteration of the opsonic index is not necessarily the result of a deliberate or accidental dose of the bacterium in question, but that chemical substances which have nothing to do with the bacterium (or, as Professor Strubell calls it, the *opsonogens*) may bring about the same result. The author deduces that the "opsonic resistance" of the serum may be altered by non-specific means. In this he raises a point which is not proven—namely, whether the opsonic index is a measure of the actual resistance of the individual to the bacterium.

[1] *Berl. klin. Woch.*, June 3rd, 1912.

THE CONTROL OF NON-NOTIFIABLE INFECTIOUS DISEASES.

When the question of the compulsory notification of certain infectious diseases was being discussed a quarter of a century ago there was a considerable amount of misgiving as to whether the advantages its advocates foresaw would not be outweighed by obvious drawbacks. Experience has falsified the anticipations of those who opposed the measure, and questions now arise as to the diseases to which it may usefully be extended. In a communication recently made to the Royal Academy of Medicine in Ireland Sir John Moore discussed the subject in some detail. It will probably be news even to those who are officially concerned with public health duties in England and Wales to learn that the Infectious Disease (Notification) Act, 1889, is still an adoptive Act in Ireland, and that up to March 31st, 1911, there were twelve urban and sixty-nine rural sanitary districts in that island in which the provisions of the Act were not in force. The Registrar-General for Ireland, in his annual report for 1910, pointed out the desirability of taking measures to limit the spread of the not generally notifiable infective diseases—namely, measles, whooping-cough, influenza, and infective diarrhoea. Sir John Moore would add to this list pneumonia, or, as he prefers to call it, "pneumonic fever"; and he expresses the opinion that pneumococcal infection quite commonly, in fact usually, produces lobar pneumonia in infancy and childhood. In connexion with this he refers to the fact that in the ten-year period 1900–9 the death-rate in Ireland from pneumonia was 0.9 per 1,000 of the estimated population. The measures which Sir John Moore advocates for the control of the non-notifiable

infectious diseases include their compulsory notification, the medical inspection of school children, and the appointment of female sanitary inspectors. He states that the sanitary staff of the Dublin Corporation already includes six female sanitary subofficers, each one of whom is certificated. If this example were followed by every sanitary authority in the country, he considers that machinery would be available for the early detection of the outbreak of acute infectious disease the value of which it would be hard to estimate in its bearing on the public health of Ireland.

THE DOCTORS AND THE PUBLIC.

THE *Daily News and Leader* of July 17th contains an article which shows how the public mind has been misled by the glosses put on Sir William Plender's report. "We know now," it says, "pretty precisely what the dispute is about." Well, we cannot pretend to say what our contemporary means by "pretty precisely," but judging from the figures in its article it must mean something very far from the truth. Let us take one or two of these "pretty preciselies." First, we are told that Mr. Lloyd George is offering for the medical benefit of every insured person 6s. a year. This figure is not in the Act, but is the actuarial figure upon which medical benefit is based. Recently the Chancellor of the Exchequer was asked on what actuarial calculation the bill was based if the work to be done by the doctors was not known. He refused to answer then, but said he would give the answer to the State Sickness Insurance Committee in time for the Liverpool Meeting or at that meeting. The second "pretty precisely" is that Mr. Lloyd George is "offering an extra payment for maternity cases, operations, and consumption, which the profession estimates at 2s. 6d." This is not the profession's estimate, but Mr. Lloyd George's. He, however, varies this, and says now that these extras would bring in 2s. 6d., and now that they would amount to 1s., but never has he offered 2s. 6d. for extras, unless, indeed, our contemporary has his authority to make the offer. The third "pretty precisely" is that Sir William Plender gives 4s. 6d. as the earnings of the doctors in five towns, but Sir William Plender nowhere mentions 4s. 6d.—he puts down in red ink for the five towns per head of population 5s. 7d.; even this figure is open to criticism, and so is a matter as simple as the number of practitioners in the five towns, for one finds Sir William subtracting 96 from 265 and getting as a result 171. The fourth "pretty precisely" is "the doctors are asking for a total of 12s. 6d." The doctors have asked for 8s. 6d. as a capitation fee without medicine. The very last "pretty precisely" we venture to give is this: "Putting these figures together, we get these conclusions. Upon Mr. George's terms doctors, as a result of the Act, would get 7s. 11d. per head of population." This is really a *very* "pretty precisely." We have tried all combinations of "these figures" and get all sorts of results, but never 7s. 11d. What "these figures" are, heaven only knows. We give them as a new puzzle to our readers: 6s. + 2s. 6d., + 12s. 6d., + 4s. 6d., + 12s. 6d., + 4s. Find the 7s. 11d. We have no doubt the Representative Meeting will come to a right conclusion without any help from the *Daily News and Leader*. All we ask from papers of this class is that they shall make a vigorous attempt to get rid of party bias, and before they rush into print give a few minutes to the study of the subject under discussion.

"KEEPING THE DOOR OPEN."

IT is generally wise to take account of the outside view of those who, while sympathetic towards the claim of the profession for just treatment and adequate remuneration, are yet able to look at the situation with greater impartiality than is possible for members of the profession. The *Times*, in concluding a leading article on the subject of the "Doctors and the Act" in its issue of July 18th, makes the following observations: "At the same time we hope the Representative Meeting will weigh well the choice before them. We can understand a disposition to break off negotiations and bring the farce that has been played on them to an end; but we do not see what there is to gain by it, and a flat refusal to listen to any more proposals would make an unfavourable impression on the public. There is reason to believe that the medical profession, if they remain united, are in a much stronger position, and can control the working of the Act much more effectively than has yet been realized. According to Section 59, the Insurance Committees must contain a certain number of medical men, and two of these must be elected by the local resident practitioners; and the question arises whether an Insurance Committee which did not comply with these conditions would be legally constituted and could legally act. If not, then the administration of the Act would be made impossible by the absence of medical members elected in accordance with the terms of the section, which are definite. The words are 'shall be elected,' not 'may be.' Nor need this happen in every part of the country. If any considerable centres were placed in this position an amending Act would be necessary to end the deadlock. Perhaps this interpretation of the section may be pronounced erroneous, but the formation of 'provisional' committees and the change of attitude towards the medical profession by Mr. Lloyd George fit in very suggestively with the theory that there is something in it, and that the Government know it. We do not point this out in order to urge the British Medical Association to break off negotiations, but for the contrary purpose. If the position is as suggested, they can keep the door open for any proposals the Government may have to make with perfect confidence, provided they remain united. Some time or other terms must be settled; and it looks as if Mr. Lloyd George were preparing at last to make a serious offer. It is high time."

THE TUBERCULIN DISPENSARY LEAGUE.

THE Countess of Mayo presided at the annual meeting of the Tuberculin Dispensary League on July 17th. The honorary secretary (Mrs. Erskine) read the report of the Executive Committee, which stated that the demand for treatment at the chief dispensary, 263, Kennington Road, S.E., was so great that it was only met with difficulty. The Committee claimed that the tuberculin treatment was that best calculated to bring sanatorium benefit within reach of the poor, as it could be given while the patient still attended to his ordinary duties. The medical profession continued to take a great interest in the system. New cases for treatment accepted between May, 1911, and May, 1912, numbered 245. Reports from branches in London and the country were satisfactory. The Committee expressed its thanks to Dr. Camac Wilkinson, and the doctors who were helping him, for their generous aid. The expense of conducting a dispensary was very moderate considering the amount of excellent work accomplished. Dr. Camac Wilkinson presented the medical report, which gave statistics of the number of cases at the various stages of tuberculosis under treatment. In Stages 1 to 2 the results were uniformly successful. In Stage 2 there had been three deaths, but in these instances no single large dose of tuberculin had been given. Mixed infection supervened, and this caused death. All the cases treated with large doses were still living. No deaths had occurred, even at the third or last stage. Dr. Wilkinson claimed that tuberculin had been proved to be beneficial at all stages of the disease. The promoters of the tuberculin treatment did not clamour for the disestablishment of sanatoriums, but urged that this system should be thoroughly tested before large sums were locked up in sanatoriums. The reports were adopted, and the officers of the league re-elected. Dr. Wilkinson said that Mr. Peacock, of the Duchy of Cornwall estates in Lambeth, had promised to erect a new building for the dispensary. The proceedings concluded with a vote of thanks to the

Countess of Mayo for her interest in the league, and for permitting the meeting to be held at her house.

THE BRITISH ASSOCIATION.

THE British Association for the Advancement of Science will for the second time hold its annual meeting in Dundee in September. The proceedings will open on the evening of Wednesday, the 4th of that month, when Sir William Ramsay will introduce the new President, Professor E. A. Schäfer, who will take as the subject of his address the nature, origin, and conservation of life. According to the *Times*, which gives a forecast of the work of the meeting, a new departure will be instituted at the forthcoming meeting. Instead of one lecture nominally intended for the intelligent working man, there will be three, open to the inhabitants of Dundee. One of these will be delivered by Professor Benjamin Moore, of Liverpool, who will treat of some bio-chemical subject, with special reference to public health. One of the customary evening discourses will be given by Professor Arthur Keith, Conservator of the Museum of the Royal College of Surgeons of England, who will speak on the antiquity of man. In the Section of Physiology, the President, Professor Leonard Hill, will consider the relative influence of muscular exercise and open air on the bodily functions, and the effect of sedentary, monotonous occupation in confined atmospheres. He hopes to deal with certain new experiments concerning the circulation of the blood, the supposed existence of organic poisons in exhaled air, and the cause of the discomfort felt in crowded rooms. The sectional programme includes a discussion on the relation of mind to body, in which Professor Latta, Sir Thomas Clouston, Dr. J. S. Haldane, and Dr. H. J. Watt are expected to take part. A joint discussion on animal nutrition has been arranged with the agriculturists. The President of the Section of Anthropology, Professor G. Elliot Smith, will probably discuss the evolution of man, considering more especially the determining part played by the growing brain in every stage of man's ancestors among the mammalia. His main theme will be the consideration of the final link in the chain of events which led to the transformation of a simian ancestor into a primitive man. At a later stage Professor R. Anthony, of Paris, will read a paper on the brain of the anthropoid apes and man. Professor Elliot Smith will submit the report of the committee on the physical characters of the ancient Egyptians, and will read two papers, one discussing fresh evidence for early attempts at mummification in Egypt, and a second dealing with the physical characters of the ancient Egyptians of the second and third dynasties. An unusually large number of foreign physiologists is expected to attend the meeting.

WE are pleased to be able to announce that Mr. Otto Beit has sent a cheque for £500 to Mr. Strangeways towards an endowment fund for the Research Hospital, Cambridge.

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In reply to inquiries from several Divisions, the Committee recorded its opinion that it could not authorize the sending in of resignations, and that any Division taking such a step was acting entirely on its own responsibility.

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The Chairman and Medical Secretary were instructed to prepare and forward to the Commissioners a reply to their communication of June 26th dealing with certain points as to which it was felt that further information would be useful.

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Debate on Sanatorium Benefit.

IN answer to a number of questions by Sir R. Baker and Mr. Wright last week, Mr. Masterman said: It is not possible to state with accuracy the number of sanatoriums and dispensaries which will be available by July 15th for the local Insurance Committees. According to the latest information, however, there are some seventy-six institutions designated as sanatoriums in England with about 2,500 beds, while accommodation for tuberculosis cases also exists in a very large number of hospitals, in addition to some fifty-seven tuberculosis dispensaries. Local authorities have for some time past been preparing schemes for the provision of institutions for the treatment of tuberculosis, and, with the co-operation of the Insurance Committees which have now been constituted, these schemes are now being proceeded with. In Scotland the Local Government Board are proceeding with the inspection of the sanatoriums with a view to their approval. In Ireland there are about 700 beds available in sanatoriums, and the provision of the dispensaries is being rapidly pushed on in the several counties.

Mr. Grant then asked if it was proposed to commence sanatorium benefits under the National Insurance Act on and after July 15th; and if it were possible to give sanatorium benefits without the co-operation of the medical profession.

Mr. Masterman said the answer to the first part of the question was in the affirmative. He had no reason to suppose that sanatoriums would reject cases, or that medical practitioners would refuse to attend their ordinary patients merely because they were insured under the Act.

Pressed by a further question, Mr. Masterman said that the Commissioners would give, as provided by the Act, medical benefit or the alternative of money payment.

Mr. Grant asked leave to move the adjournment of the House for the purpose of calling attention to a definite matter of urgent public importance—namely, the inability of the Government to fulfil their pledge to provide sanatorium benefits for every insured person entitled thereto. The hon. member being supported by a large number of members on the Opposition side, leave was granted.

Mr. Grant said he was certain that the House would not have passed the Insurance Act if it had had any doubt whatever that the smallest of the benefits promised would not be abundantly assured. No effort was spared by the Government to make it quite clear to the country that on the first day of the Act coming into operation, those entitled to sanatorium benefits would get them at once. But where now were the sanatoriums, and where were the doctors to look after them? Were they forthcoming? He did not believe the Government had either the sanatoriums or the doctors to work the Act.

The Chancellor of the Exchequer: You hope we have not.

Mr. Grant: On what grounds does the right hon. gentleman say that? He has no right to say it.

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The Deputy Speaker: The words "absolutely false" applied to a member of the House are not parliamentary.

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iniquitous that they should go on with this scheme of taxation.

Mr. Astor said he was glad to have the opportunity to second this motion in order to discuss the kind of treatment which was going to be offered to insured persons in the matter of sanatorium benefit during the next few weeks or months. The Committee which the Chancellor of the Exchequer appointed in February to advise him on the subject of tuberculosis, and of which he was a member, recommended machinery which met with the approval not only of the experts on the Committee, but of experts outside. The two units which they recommended were, first, dispensaries, which were to be the centres of diagnosis, and, secondly, sanatorium and residential institutions. But it was absolutely necessary that the men in charge of the dispensaries should be experts in the diagnosis of tubercle, and unless they got such men they were not going to show any satisfactory results to the insured persons. He did not propose to make a party speech—the question of public health was far too serious for that—though, if he wished to do so, the memoranda on the provisional arrangements to be made would give him ample material for making a strong party speech. For instance, in one of the memoranda there was a paragraph dealing with domiciliary treatment under "hygienic conditions." But suppose the conditions of the insured person's home were not hygienic? How were they going to send the insured persons to sanatoriums that did not exist? There were frequent allusions in the memoranda to negotiations that were going to take place between the local authorities and the local Insurance Committees. Local authorities would not care to go ahead and build institutions until they knew what money was coming to them, and they could only know that when they had negotiated with the committees, so that this scheme would not really begin to be fully developed until these negotiations had gone on for weeks or even months. There was considerable fear among local authorities and ratepayers as to what this was going to cost them. Personally he believed that the money under the Insurance Act was going to be a relief to the ratepayer, but they must make the ratepayer realize that, and until they had made them realize it, they were not going to be able to offer consumptives good sanatorium benefit. He did not advocate the postponement of the Act as a whole. The ball was rolling and they could not stop it now, but the sanatorium benefit should be postponed until it could be given in really first-class form. It was no good telling an insured person to go to a doctor and get a bottle of cod-liver oil. That was not the kind of sanatorium benefit that a man was paying for and was led to expect. This was the moment for the Government to be courageous. Englishmen always liked a candid apology, and if the Government said that they would postpone the sanatorium benefits for six months the country would respect them far more than if they only gave a makeshift second-class benefit. As an alternative equivalent he suggested that the maternity benefit should be antedated.

Mr. Masterman said that in four days' time the country was going to put into operation one of the greatest schemes of social reform ever devised in any country in the world. He thought that the Government were quite right in their decision last autumn to make an exception of the sanatorium benefit and bring what they could of it into force as speedily as possible, although it was idle to suppose that the full machinery could be produced by this July. Under the arrangements for the next six months there would be an expenditure of something like £200,000, and if they only saved 100 lives or 10, or prevented the infection of lives hitherto clean, they could ask the House next January to say that they had taken the right course. Because they could not do all that they wished that was no reason why they should do nothing.

Mr. Astor: The great danger I see is that if you get these cases into the wrong hands and do not get your expert in charge of the dispensaries, you will regret it much longer than you possibly imagine.

Mr. Masterman said that if cod-liver oil was given to consumptive patients who were not receiving it at present, and was beneficial to consumptive patients, they would be better off than they would be if sanatorium benefit was postponed. For treatment in dispensaries and domiciliary treatment, over £900,000 a year had been set aside, and if that was not sufficient the bill allowed for a supplement—half from the local authorities and half from the Treasury. Over one hundred local Insurance Committees had been formally constituted, and twenty-one more would be formally constituted before the week was over. In the great bulk of cases representatives of the Insurance Commission had attended the first meetings in order to expound the system of the Astor report and to show how immediate action could be taken in connexion with sanatorium benefit. In most cases subcommittees had been constituted to deal immediately with the tuberculosis patients who were insured persons. A large number of authorities, including most of the county boroughs, had prepared schemes for dealing with tuberculosis, and were only waiting for the formation of the Insurance Committees. All available institutions at present existing for dealing with tuberculosis patients would be immediately utilized by the local Insurance Committees. Temporary accommodation was being devised, and would be established in a very few weeks. Many movable shelters were possessed by the local authorities, and would be put at the disposal of patients, and many authorities were asserting their intention of increasing the number of movable shelters. A large number of dispensaries existed now, and these would be fully utilized by the local authorities and Insurance Committees. The difficulty was not that of building or getting accommodation, but of getting trained tuberculosis officers. New dispensaries would be opened every week, and officers, especially young members of the medical profession who were filled with enthusiasm for this work, would be enrolled in the Government service from time to time. Long before January they would doubtless be able to announce a network of dispensaries all over the country. Domiciliary treatment for insured persons suffering from tuberculosis could begin immediately the case was diagnosed. The immediate system as devised was systematic treatment in the home. There was no question of difference here with the profession. Mr. Astor said that the doctors would not undertake the treatment of tuberculous patients until the medical benefit was settled. That was a libel on the medical profession.

Mr. Astor: I never said anything of the sort.

Mr. Masterman said there was no doubt that, quite apart from the differences that existed, this domiciliary treatment would be put in force immediately. It was impossible to say how many persons would be found suffering from this disease in the next six months. They had set aside £220,000 for the next six months for the treatment and cure of consumption, and the abandonment of this arrangement and the passing of that money to the Insurance Fund would mean inevitably a great amount of suffering.

Mr. Forster said that the reason the benefit could not be given in its entirety was there had not been sufficient time to organize the necessary services. The circular explaining the method of administering the benefit was only issued ten days before it was to come into force. In many places no arrangements at all had been made, and in others they were in a chaotic state. That was the fault, not of the local authorities, but of those who forced the Act into operation without regard to whether or not it was in proper working order. There was a significant sentence in the circular issued by the Insurance Commissioners, in which it was pointed out that no one had any right to receive sanatorium benefit. That sentence was not fair to the Insurance Committees, and ought to be more fully explained. The proviso which had been put in the Act was only intended to guard against giving sanatorium benefit to those who would not be best served by the receipt of it. It was not fair to give the idea that proper treatment might be withheld from those who should have it. The temporary financial arrangement suggested in the memorandum of July 6th, which would give the Insurance Committees £4 5s. per 1,000 of the total population concerned, or rather less than half of the amount which would be available for the provision of sanatorium benefit, had not been justified. In Wiltshire the results of the genuine efforts which had been made to prepare for the coming of the Act into operation had been disappointing. The sum placed at the disposal of the county committtee for the provision of sanatorium benefit was

rather less than one-half of the amount to which they were entitled.

Mr. Masterman said that the reason why only about one-half of the normal amount was paid at the outset was that it was only gradually that insured people would become tuberculous. At the time when the Act would come into operation every person who was insured must be employed.

Mr. Forster replied that there were at present 402 notified cases of tuberculosis in Wiltshire, and it was estimated that 200 of those would be cases of uninsured persons. The others would be entitled to sanatorium benefit when the Act came into operation next Monday. He did not see how accommodation in sanatoriums could be provided for some time; yet in the meantime those consumptive persons would have to pay their contributions. Even if the financial provision made by the Government were adequate the Wiltshire committee could not secure more that sixteen beds for tuberculous patients, and ten of those beds would not be available for at least three months. The cottage hospitals and infirmaries in the county would not undertake to work the Act, although they were offered an initial payment of £10,000 and an annual payment of £5,000. Additional accommodation must be provided. Why had no use been made of the £1,500,000 of which the right hon. gentleman had often spoken with much satisfaction? Had any steps been taken to provide sanatoriums in those districts where accommodation could not be got in existing buildings? Where was the sanatorium benefit which occupied such a large part of the Chancellor's platform speeches? The Chancellor said: "The patient would go to a great building in the country where he would get the best nursing, the best doctoring, and the best food, and live practically in a consumptive first-class hotel for three or four months." He asked the Chancellor of the Exchequer where were these first-class hotels? It was cruel to excite false hopes; it was something more than cruel if the Government levied contributions and taxes for benefits which could not be given.

Dr. Addison could not imagine that any sensible man thought the promised sanatoriums could spring up like mushrooms in a night. He had no doubt that the promises of the Chancellor of the Exchequer would be carried out. Examining the figures in relation to Wiltshire, he doubted if 200 out of 402 notified cases would be insured persons on Monday, but in any case on Monday next they would not have made contributions, and therefore if the best form of treatment should not be available, they could not be said to be cheated out of something for which they had paid, because they would have paid nothing. The hon. gentleman spoke of only four beds being available for advanced cases, but it was not likely that the advanced cases would be insured persons. Insured persons on Monday next would not be advanced cases for a considerable time, and when that time arrived there would be abundance of accommodation. Advanced cases he took to mean hopeless cases, cases of persons whose last days should be made as comfortable as possible with prevention of infection, and these cases would not be insured persons on Monday. It did not follow that because well-trained officers could not be supplied all over the country that therefore nothing could be done. He did not think they would be able to provide a sufficient number of properly trained and experienced tuberculosis officers under at least twelve or eighteen months. Expenditure on bricks and mortar was unnecessary until a necessity for the expenditure was shown, and it could not be shown until the patients were in sight, at all events. A great many of these cases would not be clearly diagnosed until the middle of October, and for a large number of cases shelter colonies would be a very good, if not an ideal, form of treatment during the next three months. The whole question was this—was the commencement of sanatorium benefit to be postponed until the series of buildings and the chains of dispensaries and the whole apparatus was in full going order, or were they to begin in a small way and grow? The essential thing was that it should grow in the right way. It could only be built up gradually as agreements were come to between the local Insurance Committee and the local authorities, and they could not begin the Act with a spick and span machinery if they wanted to.

Sir F. Banbury: Begin the contributions gradually.

Dr. Addison said that that was one of those light observations that were very easy to make but very difficult to carry into practice. It would take at least three years to build up the machine, and no responsible Minister of the Government had ever led anybody to suppose otherwise. Those who were unfortunate enough to suffer from tuberculosis in the next six months would get a large amount of assistance. The man who had hitherto paid for his treatment would have it paid for by the Insurance Committee.

Sir P. Magnus urged that, in view of the importance of expert medical advice in the treatment of tuberculosis, the Government should not attempt to put the Act into operation until they had made quite sure that they had secured the services of the best medical practitioners. He could not help thinking, and he said this in no party spirit, that some amount of blame attached to the Chancellor of the Exchequer and the Secretary to the Treasury for not having yet succeeded in arranging terms with the profession. All members of the profession desired sincerely to co-operate, but they had not been treated in a manner to make it easy for them. It was only a few days ago that their representatives received a reply to a letter they addressed to the Commissioners on February 29th.

Mr. Chiozza Money said there was a differentiation to be made in the position of the medical profession with regard to medical benefit and sanatorium benefit.

Sir P. Magnus said it had been resolved among other things that no registered medical practitioner should give any assistance towards bringing sanatorium benefit or any other benefit of the Act into operation.

Mr. Chiozza Money said that did not represent the present attitude of the medical profession.

Mr. Worthington-Evans said that the duty of administering sanatorium benefit rested primarily with the Insurance Committees, not yet appointed. Provisional Committees there were, and some of these had met, but none had adopted a scheme for administration of sanatorium benefit. He knew of one scheme prepared which, given time for completion, would do immense good, but time was required, and to attempt things in a hurry would cause friction among local authorities and prejudice the working of the Act.

After some observations by Mr. Glyn-Jones (Stepney), the House divided, and the numbers were:

For the motion	148
Against	259
Majority	—111

The announcement of the figures was received with loud Ministerial cheers.

Sanatorium Benefit.

Mr. Godfrey Locker-Lampson asked what remedy an insured person would have if he was not able to obtain the sanatorium benefit for which he had paid. Mr. Masterman replied that if an insured person was dissatisfied with any treatment he received from the Insurance Committee which was responsible for arranging for such treatment he might appeal under Section 67 to the Insurance Commissioners, who might decide the case themselves or authorize a referee to decide such an appeal.

Mr. Hunt asked what did a man have to do if the Commissioners could not give him the sanatorium benefits for which he had paid. Mr. Masterman said he did not think that arose out of the question. In the first place, he would apply to the Insurance Committee, and it was only if the Insurance Committee gave him the wrong treatment or refused to give him the treatment he ought to receive that the appeal lay.

In answer to other questions Mr. Masterman said that sanatorium benefit could be given now, and medical benefit or an alternative equivalent would be given from January.

Mr. Wright asked how many and which of the seventy-six institutions designated as sanatoriums in England, and how many and which hospitals, and with how many and which of the fifty-seven tuberculosis dispensaries had arrangements been made, and by which, local insurance committees for the provision of sanatorium benefit in sanatorium and other institutions as from July 15th, 1912; and further, in which of the above institutions, hospitals, and dispensaries, and to how many insured persons was sanatorium benefit under the National Insurance Act now being administered? Mr. Masterman: No reports had as yet been received from Insurance Committees as to the

institutions with which arrangements were proposed to be made with a view to the treatment of insured persons suffering from tuberculosis, nor as to the numbers of applications which they had received for provision of the benefit.

Mr. Godfrey Locker-Lampson asked the Secretary to the Treasury if he would state on what date and out of what moneys the £4 5s. per 1,000 of the population mentioned in Clause 34 of the Memorandum No. 112, I.C., dealing with the administration of sanatorium benefit, would be paid over to the Provisional Insurance Committees. Also, whether the 1s. 3d. provided for in Clause 16 of the National Insurance Act, in respect of every insured person, would be available for sanatorium benefit for the first year commencing July 15th, 1912.

Mr. Masterman replied that provision would be made to meet expenditure necessarily incurred on sanatorium benefit between now and January next by the Insurance Committees out of the National Insurance Fund. The precise dates of issue would depend upon the moneys from time to time available upon the account of the fund and the requirements of the respective committees. The sum mentioned in the Memorandum 112, I.C, was about half the estimated normal half-year's contributions for sanatorium benefit, and represented the amount which the Commissioners thought would be required in the first half-year for the treatment of insured persons. If more than this sum was required for treatment of such patients, it would be possible to make a further allocation within the amount indicated by the Act.

Medical Benefit.

Mr. Fred Hall (Dulwich) asked how many doctors were now known to be available in connexion with the administration of medical benefit under the National Health Insurance Act, and what was the number of persons which it was estimated would have to be dealt with as regards this section of the benefit?

Mr. Masterman said it was the duty of the local Insurance Committees, under Section 15 of the Act, to make arrangements for local panels of doctors of those who were willing to serve on such panels under regulations made by the Commissioners. Those regulations were now under the consideration of the Advisory Committee, and until they were issued, and the committees had commenced this work it was impossible to state how many doctors would be available in connexion with the administration of medical benefit. If in any district the doctors willing to serve on panels were not such as to provide an adequate medical service, the Insurance Commissioners might authorize the Insurance Committees to make other arrangements, or might themselves make such arrangements as they thought fit. It was estimated that some twelve millions of insured persons would be entitled to medical benefit or a monetary equivalent.

Domestic Servants (Medical Attendance).

Mr. Hunt asked whether, in the case of clubs where a doctor was provided free for all the servants, he could say whether the contributions of these servants would be reduced by the amount which would be required if the services of a doctor were included. Mr. Masterman replied that the Act did not provide for any reduction of contribution in the circumstances described; but the cost of the remuneration of the doctor might be borne by the Insurance Fund, to which insured servants would contribute for medical benefit.

Local Insurance Committees.

Mr. Butcher asked the reasons why, in appointing Provisional Local Insurance Committees, it was found necessary to place on such committees persons living outside of the locality for which the committees were appointed, and in many cases having no connexion with the locality.

Mr. Masterman said that representatives of insured persons on the Insurance Committees now constituted on a provisional basis were selected by the central representative bodies of friendly societies and trade unions, and by the Association of Industrial Insurance Offices. He was not aware of any cases where persons having no connexion with the society had been appointed. In certain cases the persons selected by the bodies mentioned did not actually reside within the boundaries of the area for which the committee acted, but in such cases they were probably officers of friendly societies or other approved societies which were largely operating within the boundary. The large friendly societies had had their say in the matter. So far as he knew the outside persons were nominated.

Mentally Defective School Children.—Mr. Astor asked the President of the Board of Education whether he would state how many of the children attending elementary, secondary, and special schools, respectively, were mentally defective? Mr. Pease replied that he could only give figures relating to children in special schools recognised by the Board of Education for mentally defective. In such schools there were in average attendance for the year 1910-11 10,337 children in England and Wales,

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Sight Tests.—Mr. Lynch asked the President of the Board of Trade whether the results obtained by the Committee on Sight Tests had been of a nature to demonstrate the superiority of the lantern test for colour-blindness over the wool test, and whether, seeing that the lantern invented by Dr. Edridge-Green had been found satisfactory by the Admiralty, he could explain why the Board of Trade proposes to adopt another lantern. Mr. Buxton, in reply, said he was not aware that the report of the Departmental Committee on Sight Tests contained any expression of opinion as to whether the wool test or the lantern test was the better test for colour-blindness. In the opinion of the Committee each method was to some extent supplementary to the other. The recommendations of the Committee were at present receiving his careful consideration with a view to giving effect to them as far as possible at the earliest possible date.

Vivisection (Royal Commission).—Mr. Lansbury asked the Home Secretary what steps he proposed taking to give effect to the recommendation of the members of the Royal Commission on Vivisection with regard to the composition of his advisory body; whether in accordance with the said recommendation, no vivisector was now allowed to be a member of that body; and whether, as further recommended by the Commissioners, he had ceased to consult the Society for the Advancement of Medicine by Research in his administration of the Act? Mr. McKenna replied that he was in communication with the Royal Society and the Royal Colleges of Physicians and Surgeons with a view to constituting an advisory body on the lines recommended by the Royal Commission; but until the new arrangement had been made, he was continuing to consult the Society for the Advancement of Medicine by Research.

Grant Medical College, Bombay.—In reply to Mr. Reddy, the Under Secretary of State for India said that the creation of two professorships at the Grant Medical College was in contemplation by the Government of India. Until the proposals were before the Secretary of State, he could not enter into a discussion of the terms of appointment, but that there was nothing novel in debarring professors at medical colleges in India from private practice.

THE *Annals of Tropical Medicine and Parasitology* of May 29th, 1912, Series T. M., Vol. VI, No. 1, B., issued by the Liverpool School of Tropical Medicine, at the University Press, Liverpool (price 5s.), contains, amongst other interesting papers, the following: On the Presence of Leishmania in the digestive tract of *Anopheles maculipennis*, by G. Franchini; the Vitality of, and Changes undergone by, Trypanosomes in the Cadaver of the Animal Host, by Dr. Blacklock; the Development of a Leucocytozoon of Guinea-pigs, by Dr. Ross; Notes on Some Early References to Tropical Diseases, by Dr. Singer; *Parapiothorchis caninus*, the Liver Fluke of the Indian Pariah Dog, by Dr. Stephens; a New Tsetse Fly from British East Africa, by R. Newstead; a Note on Anti-syphilitic Measures in Uganda, by Captain Keane; and the Treatment of Beri-beri, by Drs. Thomson and Simpson.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

HOSPITALS AND THE INSURANCE ACT.

Glasgow Voluntary Hospitals and Dispensaries.

DURING the past fortnight a good deal of progress has been made with the view of determining the attitude to be adopted by the voluntary institutions towards insured persons in Glasgow. The genesis of the movement was an informal discussion among the staff of the Royal Infirmary as to the complementary pledge. It was felt that the best plan was to meet representatives of the staffs of the other hospitals, so that a uniform policy might be adopted. With this view the various institutions were requested to send delegates to a private conference, and as a result it was decided that each medical staff should approach the directors of its hospital and find out what attitude the hospital authorities intended to adopt towards insured persons. We understand that in each case the deputation of the staff met with a very favourable and sympathetic reception by the managers. The medical position was frankly explained, and the difficulties of administering the Act were made clear.

We learn that the hospital managers subsequently had a joint conference, to which each hospital sent representatives and the conference adopted the following line of action. It was recognized that the chief difficulty would arise in the working of the outdoor departments. The conference adopted a motion to the effect that insured persons should not be entitled to free treatment at the outdoor departments unless they were personally introduced by their insurance doctor or sent with a note from him. The outdoor departments, as regards insured persons, are in effect to be kept as consulting departments for difficult cases. Nor would a patient sent by his doctor receive free treatment. The medical practitioners on the outdoor department would communicate with the insured person's doctor who might then carry out the treatment, etc., suggested. Only in cases where special treatment—*x* rays, light, electrical treatment, etc.—was required would this be given at the hospital. Of course, emergency cases would still be treated at the hospital, but would be referred back as soon as possible to the insured person's doctor.

If these suggestions of the delegates are homologated by the managers, as no doubt they will be, the outdoor departments will be relieved of a large amount of abuse. The medical men will have more time to investigate the cases, and the cases are likely to be more worth investigating, so that it is hoped that in the dispensaries, for example, where students attend, the teaching will not suffer. It was found in the case of one dispensary physician that during the past fortnight one quarter of the new patients were persons who would be insured. The treatment of non-insured persons will not be altered. We understand that no decision with regard to sanatorium treatment has been arrived at, but that the indoor patients will practically be treated as before.

Statement by the Staff of the Edinburgh Royal Infirmary.

The Honorary Staff of the Edinburgh Royal Infirmary has submitted the following statement to the managers:

We thank the managers of the infirmary, through you, for granting the request of the honorary staff for this interview.

The object the honorary staff had in view in asking for this conference was to bring under the notice of the managers (1) the changes in the present provisions for medical treatment which will be brought about by the National Insurance Act; (2) the attitude of the medical profession to the Act; and (3) the relations of the staff of this public charity to the profession at large.

Insured Persons and the Royal Infirmary.

It is estimated that one-third of the entire population will be insured, and that of the male population of 16 years and over 75 per cent. will be insured.

Insurance under the Act implies that the State has undertaken to pay for the medical attendance of insured persons. They, as a class, cannot therefore be regarded as objects of charity entitled to make uncontrolled use of the out-patient department of the infirmary.

Further, when insured persons become in-patients, the infirmary, under certain circumstances, may be entitled to a grant towards their maintenance from the Insurance Act funds.

These altered relations have been brought about by the Legislature, and were not sought by the profession. We submit that such changes call for reconsideration of the existing arrangements at the infirmary with a view to adapting these to the altered circumstances.

The Medical Profession, the Act, and the Royal Infirmary.

Another aspect of this question which the staff desire to bring under the notice of the managers is as follows:

The medical profession has decided not to work the medical benefit section of the Act unless certain terms are definitely granted by the Commissioners. The Commissioners and the Government have been so dilatory in deliberating over these terms, that the profession has had to take into consideration the possibility that their demands may not be granted, and to prepare for that eventuality.

It may thus happen:

First, that medical benefit will be suspended, and that the money alloted under the Act for such benefit will be paid over to Approved Societies to make the best terms they can for medical attendance on insured persons.

The profession has decided not to undertake contract work such as this might imply except on such terms as shall be acceptable to the profession, as represented in the Local Medical Committees already elected in every insurance area.

It is a fact that friendly societies are already attempting to get over some of their difficulties by trying to utilize such public medical charities as the infirmary. The members of the profession in Edinburgh, through its local Medical Committee, have strongly impressed upon the honorary staff of the infirmary the necessity of bringing before the notice of the managers the probability of an extension of such action in the future, and they protest against the possibility of this great charity being used to undermine the united action of the profession. The staff fully realizes the seriousness of this possibility, and, sympathizing with their brethren, feel bound to support them by doing everything in their power to prevent its occurrence. Moreover, if such additional work were thrown upon the already over-burdened out-patient departments, they would be quite unable to cope with it.

The *second* possibility is that the Commissioners or friendly societies may profess to provide medical benefit by means of a small body of dissentients from the declared policy of the profession. Were this to happen, your honorary staff are expected by their brethren, and themselves desire, to do everything in their power, both as private consultants and as members of the staff, to discountenance such arrangements.

Sick Poor not Insured.

Apart from insured persons there are many thousands of sick poor to whom the staff will ever be ready and willing to give of its best, as it has done in the past, but the staff strongly represent to the managers that the time has arrived when it is of the first importance that steps should be taken to institute some efficient method of inquiry regarding the position of persons seeking advice at the infirmary. They do not venture at present to propose any definite scheme, but they regard the initiation of such a scheme as urgent.

The whole question of the relation of medical charities to insured persons is being dealt with all over Great Britain, and the staff realize that it would be a very serious matter if, as the result of inaction on the part of the managers, the medical profession in Scotland were to take up an attitude of hostility to the Royal Infirmary.

It is hardly necessary to state to the managers that a large amount of the work done in the infirmary is bestowed on persons recommended by medical men.

The following reply to the statement has been received:

The Royal Infirmary, Edinburgh,
July 15th, 1912.

Sir,

I have to acknowledge receipt of your letter of this date addressed to the Superintendent forwarding the statement with reference to the National Insurance Act signed by the members of the Honorary Staff and which was laid before the Managers at their meeting this afternoon. A report of the conference which took place between the Committee of the Board and the Committee of the Staff on the 5th instant was submitted and considered at the same time.

I am now directed to say that the board sympathizes

with the staff in the difficult position in which they are placed at the present time, but is confident that the staff, while maintaining the fullest loyalty to their professional brethren, will always keep in view the true interests of the sick poor, for whom this great charity exists and is supported.

I am also further directed to say that the Board, after discussion, arrived at the following conclusions:

1. That in present circumstances insured persons being entitled to medical benefits under the Insurance Act should not be treated in the out-patient departments of the hospital except in accident cases, urgent cases, and suitable consultation cases.

2. That the honorary staff shall be entitled to exercise the option (recognized in private practice) to decline to meet any practitioner in consultation should such a course be considered advisable, but always provided that no patient shall be denied immediate advice or treatment if that be requisite on medical grounds.

3. That the question of investigating the circumstances of applicants for the benefits of the hospital by means of almoners or otherwise, is one which will require time and care in consideration, owing to its undoubted complexity. The Managers will, however, give the subject their most careful attention in due course.

I am, Sir,
Your obedient servant,
(Signed) Wm. S. Caw,
Treasurer and Clerk.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Museums Association.

The Museums Association held its annual conference in Dublin last week, commencing with a meeting in the theatre of Leinster House on Tuesday morning. The members and visitors received a cordial welcome from the Lord Mayor of Dublin, and from Mr. T. P. Gill on behalf of the Department of Agriculture and Technical Instruction. Count Plunkett, Director of the National Museum, then took the chair, and after welcoming the members of the association, spoke of the great importance of museums in the education of the people and the development of the crafts and industries of a country. Professor Henry Browne, S.J., read a paper on the influence of museums on the reform of classical studies, in the course of which he said that classical education, as our fathers understood it, must be mended or ended. Other papers dealing with the importance of museum education were contributed by Dr. F. A. Lucas (Director, American Museum of Natural History, New York), Mr. Reginald Smith, B.A. (British Museum), and Professor Patten, M.A., Sc.D. (Sheffield University). Trinity College was then visited and the museum shown by Dr. Joly. In the afternoon a visit was paid to the National Gallery, and a garden party was given at the Viceregal Lodge. In the evening there was a largely attended conversazione in the National Museum given by the members of the Dublin branch of the association. On Wednesday numerous papers of interest were read, and in the afternoon visits were paid to the Zoological and Botanic Gardens. In the evening the annual dinner was held at the Gresham Hotel. Count Plunkett, F.S.A., presided, and the Lord Lieutenant was amongst the guests.

City and County of Dublin Sanatorium.

At the last meeting of the South Dublin Rural District Council a letter was read from the Dublin Joint Hospital Board, saying that the board had heard with considerable surprise that some members of the Dublin County Council were in favour of allocating the grant obtainable by the County Council under the Finance Act, 1911, and the Insurance Act, 1911, to the full development of the sanatorium at Crooksling. The Dublin Joint Board, being convinced of its claim for the grant allocated to the City and County of Dublin, had for some time considered the urgent necessity for increasing the present accommodation at the sanatorium for early cases of tuberculosis, and of establishing a sanatorium for acute cases as well. Plans for both of these schemes have been drawn up and approved, and on July 3rd a deputation submitted them to the Local Government Board. After consideration of this letter the council adopted a resolution adhering to the opinion that the grant should be entirely applied to the fullest development at the sanatorium at Crooksling, and expressing the opinion that any scheme which did not favour the co-operation of all the district authorities of the county with the Corporation of Dublin deserves the most rigorous opposition.

The New Peamount Sanatorium.

The announcement that the Women's National Health Association had purchased the Peamount estate, near Lucan, for the purpose of erecting a sanatorium for the treatment of tuberculosis, has raised a storm of protest from the people of the neighbourhood which is somewhat reminiscent of the recent controversy raised with regard to the building of a special wing for consumptives in the grounds of the Hospital for Incurables, Dublin. All kinds of objections are raised: it is stated that the place is low-lying, damp, not suited for consumptives; that there is no permanent water supply; that it is in a thickly populated district; and that the erection of a sanatorium will depreciate the value of the surrounding property and spread the infection of tuberculosis. On the other hand, it is stated on good authority that the house stands 300 ft. above sea level; that the grounds slope gently from the house, and are well sheltered from the north and east; that there is a triple water supply—from a deep well, a spring, and a river, all in the grounds. The fact remains that the place has been purchased and the erection of pavilions is being rapidly pushed forward, so that they may be ready for the reception of patients at an early date.

Dublin County Borough Local Medical Committee.

In accordance with the resolutions passed at the mass meeting of delegates representing the whole of the Irish medical profession, held at the Mansion House, Dublin, on June 11th, 1912, the Dublin County Borough Local Medical Committee, which has been elected by, and is acting for, the entire local profession, has decided that:

Half a crown be the minimum fee for medical examination for entrance to an approved society.

Relating to matters common to attendance under the National Insurance Act and attendance through societies, inclusive of all services (except midwifery), the annual payment must not be less than 8s. 6d. per member (cost of drugs not included).

In addition, the Dublin County Borough Local Medical Committee is of opinion that 12s. per annum be the rate for attendance on the member of a society, including his family.

Ireland and the Sanatorium Benefit.

Medical men resident in county Tyrone at a meeting on June 29th unanimously passed a resolution to the effect that no medical man should accept any position of profit or emolument, direct or indirect, under the Insurance Act until there had been full compliance with the demands of the medical profession in respect of it. This reaffirmation of principle was due to its being brought to the notice of the meeting that the Women's National Health Association proposed to open sanatoriums forthwith, and that, as in certain areas attempts had already been made to persuade medical men to accept appointments as tuberculosis medical officers, these might be expected to be repeated in Tyrone. The *Irish Times* during the same week contained a letter on the subject signed "Observer." It stated that Lady Aberdeen, through the Women's National Health Association, was apparently to be allowed to select buildings in various parts of the country and turn them into temporary sanatoriums without any sanction whatever from the Local Government Board or the county council. This "Observer" regarded as totally unnecessary, since the county councils were much better fitted to make the necessary arrangements whenever the right time came. At present that time had not come, because an agreement with the medical profession has still to be reached, and until it was reached medical men possessed of adequate knowledge on this particular subject would not accept the appointments. He was aware that a certain number of names had already been sent in for an appointment as sanatorium superintendent, but he believed that there was a misunderstanding on the point, and that the names would be withdrawn so soon as their owners realized that to take part even in tuberculosis work would at present be inimical to the interests alike of the medical profession and themselves.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

WALES.

SANATORIUM BENEFIT IN WALES.

THE Executive Committee of the King Edward VII Welsh National Memorial for the prevention and abolition of tuberculosis met at Shrewsbury on July 12th, with Mr. David Davies, M.P., in the chair. A subcommittee reported that it had invited applications for the appointments of tuberculosis physician and that 57 applications had been received. The subcommittee submitted the names of 22 candidates and 11 appointments were made. It appears that some at least of the applicants were unaware that the advertisement offering these appointments had been refused publication in the BRITISH MEDICAL JOURNAL in accordance with the notification of the State Sickness Insurance Committee of its decision that acceptance of medical appointments in connexion with the administration of sanatorium benefit under the National Insurance Act would be a contravention of Minute 78 of the Special Representative Meeting. Two of the appointed candidates, Dr. C. J. Welch and Dr. D. A. Powell, have in consequence withdrawn, and their loyal action will be highly appreciated by the profession. A letter has been addressed to the other candidates by the Medical Secretary of the Association, drawing their attention to the pronouncement of the Committee with respect to sanatorium benefit, a pronouncement with which they may not have been fully acquainted when they accepted the invitation to apply for the appointments. On July 11th the State Sickness Insurance Committee, after very full consideration, reiterated its opinion that the terms of Minute 78 of the Special Representative Meeting of February last, which stated that no member of the medical profession should take any office or work under the National Insurance Act other than that of the Advisory Committee, until such time as the minimum demands of the profession were conceded in the regulations or in an amending Act, debarred members of the profession from making any kind of attendance upon any person under the Act in connexion with sanatorium benefit, but, at the same time, it put on record its opinion that there was abundant evidence that the question of Minute 78, in its application to sanatoriuum benefit, must come up for consideration at the Annual Representative Meeting. The meeting takes place at the end of this week, and the decision then reached will, we have no doubt, be accepted by all the medical men who were nominated by the Welsh Memorial Committee last week. They have probably been misled owing to the fact that there is apparently no necessary connexion between the Welsh National Memorial and the National Insurance Act, but the funds of the Memorial Committee will be largely derived from those provided under the Act in respect of sanatorium benefit.

KING EDWARD VII HOSPITAL, CARDIFF.

At the meeting of the board of management last week the medical board's resolution to the effect that all its members had signed the British Medical Association's pledge was mentioned. It was explained that this would not affect the treatment of accidents or urgent cases. The question of permitting the attendance at operations of first-aid and other unqualified societies was gone into, and the general feeling of the board was against such permission being given. The gentleman who anonymously gave £10,500 towards the establishing of the new physiological department in connexion with the University College proves to be that very generous supporter of the hospital and college, Mr. W. James Thomas, of Ynishir.

MANCHESTER.

SANATORIUM BENEFIT IN MANCHESTER.

AT a meeting of the Sanitary Committee of the Manchester Corporation, the medical officer of health submitted a report setting forth a provisional scheme for giving effect to the provisions of the National Insurance Act in connexion with sanatorium benefit, and it was resolved that the Special Subcommittee appointed to deal with the question of tuberculosis should be authorized to make arrangements with the authorities of the Manchester Consumption Hospital for the treatment of consumptives, the scheme not being confined to insured persons, though intended in the first instance for them. The full scheme has not yet been published, but it is understood that it includes a proposal for the payment of a salary of about £250 a year to the medical staff of the Consumption Hospital. It has not yet been settled what the outcome of the arrangements with the Consumption Hospital will be, but possibly something may depend on the action of the Representative Meeting with regard to the interpretation to be put on Minute 78 of the Special Representative Meeting of February. The matter is important, as it seems to be not unlikely that arrangements may also be sought with some of the other Manchester hospitals for the treatment of other cases of tuberculosis. The Subcommittee was also instructed to interview the Local Insurance Committee and come to an understanding with it, so that sanatorium benefit might be available from the commencement of the Act on July 15th. In consequence of the difficulties, already reported, as to the appointment of the two medical representatives of the Corporation on the Local Insurance Committee, the Special Committee dealing with the Insurance Act has resolved to postpone the further consideration of the matter for the present.

SALFORD STATISTICS AND THE INSURANCE ACT.

The following figures are gathered partly from the annual report of the Medical Officer of Health for Salford and partly from other sources, and may be of use in the consideration of the possible effects of the Insurance Act on general practice. The population of Salford in the middle of 1911, based on the census, was 231,641, which is some thousands less than had been estimated. Taking the Government estimate that about 12 out of 41 persons will become insured persons and that there are 24 dependents of the insured or persons in similar economic position, and 5 belonging to the middle and upper classes, there will be in Salford in round figures about 67,800 insured persons, 135,600 non-insured, but of the same economic position as the insured, and 28,200 non-insured of the middle and well-to-do classes. In the area of the Salford Division of the British Medical Association there are 131 medical practitioners, but the Division covers not only the area of the Salford borough local Insurance Committee but the whole or parts of three, if not four, separate district insurance committees of the county, with some overlapping with the area of the Manchester Insurance Committee. But in the Salford borough itself there are about 100 medical practitioners, of whom 14 or 15 are either whole-time officials or retired or not engaged in general practice, leaving about 85 resident in the borough engaged in general practice. As the division line between Manchester and Salford is purely artificial, many of the Salford practitioners have numerous patients in Manchester as well as in the surrounding districts, which may be neutralized by Manchester and other practitioners having patients in Salford, but, dividing the population of Salford among the 85 resident general practitioners, each has a possible *clientèle* of 2,725 persons. Of these, 798 will be insured, 1,596 non-insured, but of the same economic position as the insured, and 331 non-insured of the middle classes. These numbers may appear to be very high, but parts of Salford are very congested, and contain a great proportion of the poorer working classes. A considerable number are in medical clubs which pay a capitation fee averaging probably 4s. The outdoor paupers are attended by district medical officers, who are included among the 85 general practitioners.

In connexion with sanatorium benefit the registered deaths in the borough in 1911 included 380 from phthisis and 196 from other forms of tuberculosis, and, taking the ordinary method of calculation, there must be about 1,800, and possibly as many as 2,000, cases of tuberculosis in the borough at any one time. As affecting maternity benefit, there were 6,345 births during the year, and of these 4,671, or 73.6 per cent., were attended by midwives, while 1,674, or only 26.4 per cent., were attended by medical practitioners. There is no arrangement for paying the fees of medical men summoned to the assistance of midwives

similar to that which exists in Manchester, as the Corporation refused to adopt the Manchester scheme, and at present the guardians pay only for persons proved to belong to the poorest classes.

BIRMINGHAM.

Resignation of Professor Malins.

Dr. Edward Malins, who has held the chair of midwifery in the University of Birmingham, and previously in Mason College since the year 1894, has tended his resignation. In his letter of resignation Professor Malins expresses his grateful appreciation of the consideration he has constantly received both from the authorities and his colleagues in the conduct of the department he has had in charge. Acknowledging the privileges of citizenship and recognizing its duties and obligations, he at the same time sent a cheque for £1,000 as a contribution towards the general expenses of the university with, to quote his own words, "a profound sense of the many important advantages it offers to the advancement of knowledge and the great capabilities it opens to the future in the highest interests of intellectual and material progress in our midst."

Correspondence.

RESEARCH DEFENCE SOCIETY.

Special Appeal.

Sir,—We are of opinion that experiments on animals in this country should be restricted by law, that the present Act should be efficiently administered, and that the utmost care should be taken to ensure the minimum of pain in these experiments.

Some of the antivivisection societies have lately adopted methods which are grossly offensive to the public interest. They have opened no less than sixty shops in London and elsewhere. Most of these shops have lasted only a few weeks, but they have had time to spread falsehood, prejudice, hatred, and suspicion against scientific research. They have also done harm to small children. It is no light offence to exhibit in public not only brutal cartoons and caricatures, but stuffed animals, tied down for operation, while the truth is carefully concealed that no operation is allowed on any animal in this country except under an anaesthetic.

In this connexion we would remind the public of the unanimous statement of the Royal Commission:

> To represent that animals in this country are wantonly tortured would, in our opinion, be absolutely false.

The excuse is offered, for these shops, that the appliances displayed in the window are actually supplied by the makers. But if the appliances used in our hospitals were displayed in a shop window, with models of human beings tied down for operation, it would be no excuse for such a travesty, to say that the appliance had acually been supplied by the makers.

Some of these societies, having wealth at their disposal, are able to rent shops in the most crowded thoroughfares, or to attract by the very lavish and rather unscrupulous use of money, a large audience. It seems that an effort is being made to work on the mere liking for horrors, real or sham: that no exhibit is too sensational, if it can serve to draw attention and to excite passion.

When we think of the vast multitudes of lives, human and animal, saved from pain, disease, and death by discoveries made through experiments on animals, we cannot believe that the present methods of antivivisection societies are acceptable to sensible and honest people.

The only way to fight these methods is to be constantly publishing the facts of the case put before the Royal Commission and embodied in its final report. The Research Defence Society, in the past twelve months, has given more than a hundred addresses and lantern lectures in all parts of the kingdom, and has distributed more than half a million pamphlets and leaflets. But there is much more work waiting to be done if we had the money for it. We therefore appeal for special donations, to be controlled by the committee of the society, and to be used solely for such purposes of education as public lectures and distribution of literature. All cheques should be crossed "Messrs. Coutts and Co.," and made payable to the Honorary Treasurer, Research Defence Society, 21, Ladbroke Square, London, W. We hope and believe that this appeal, in the interest of the public, will be very generously answered. On behalf of the Society, we are, etc.,

David Gill,
President.
Sydney Holland,
Chairman of Committee.
Robert Cecil.
Luke Fildes.
William Ramsay.
Mary Scharlieb.
F. M. Sandwith,
Honorary Treasurer.

London, W., July 10th.

APPENDICITIS—AND QUICKNESS.

Sir,—If readers of the Journal will turn to Sir George Beatson's first letter (June 3rd) they will see that it is the question of early operation in appendicitis he is discussing, and not merely the mortality, though, of course, that is the most important consideration. Hence, when he wrote that he had no fault to find with operation in the first twelve hours, the obvious meaning was that he had not. He now tells us why he has. He tells us one reason is because it creates a belief that operation is necessary at that time. This is the belief that many of us would wish created in the minds of all surgeons—and in the minds of general practitioners also. It is quite a mistake to represent the views of those surgeons who advise operation in all acute cases in the way Sir George Beatson does. We do not claim that all cases which recover after early operation "are snatched from the jaws of death." We know quite well that a certain number might recover without operation (but would very likely have a relapse and require operation eventually), but, as Sir George Beatson cannot tell us how to determine the "merits" of the case, we believe that there is too great a risk in leaving a diseased appendix, the exact condition of which Sir George Beatson admits he cannot determine by any clinical signs, for we know how often the appendix is found just ready to infect the general peritoneal cavity, without any protective walling-in, and that even when walled-in, and surrounded by pus, there are many dangers for the patient to face until the abscess is evacuated. I quite agree with Sir George Beatson that it does not matter whether the appendix is perforated or gangrenous if it is walled-in. But who can tell that it is safely walled-in? Even when it is, pus formed around it will certainly need evacuation.

I foretold in my last letter that Sir George Beatson in his next would tell us we had better not operate on any case until the interval stage. He now goes almost as far as this, for he says "that when the acute attack has existed for more than twenty-four hours, unless there are definite symptoms of general suppurative peritonitis, operation is best postponed, as such cases under medical management do well, and can be safely brought to the 'interval stage,' when the operation mortality is *nil*." Of course, the operation mortality is *nil* at this stage, but the question is, Can they all be brought safely to it without operation? Most surgeons would agree that all cannot. Sir George Beatson has now ceased to advise us to judge cases on their "merits." We are now told we are to abstain from operation unless signs of general peritonitis are present. Perhaps such signs constituted in his mind the "merits" of the case; at any rate, he does not seem able to give us any other reliable indication when to operate. It is to be noted that Sir George Beatson writes of a period of twenty-four hours after the onset as the time when we are no longer to undertake operation. He has often told us it should be twelve hours. Has he any definite period in his mind? If so, I would ask, as Mr. Paterson has already done, Why?

With reference to the 59 cases of appendix abscess, quoted by me from Mr. Makins's article, Sir George Beatson says: "I have furnished him with valuable confirmatory evidence in favour of the very point he is contending for—namely, that interference with localized appendix abscess in its acute stage is most disastrous, and sets up a train of complications that are at the root of

our heavy mortality statistics in acute appendicitis. . . . " How Sir George Beatson could get this evidence out of Mr. Makins's article I fail to see. I should have thought the evidence was all the other way. For, evidently, such complications as intestinal obstruction, subdiaphragmatic abscess, etc., were not due to the operation, but occurred because it was not performed earlier, and Mr. Makins points out that "the 'early operation,' if performed as a routine procedure, would lead to the disappearance of practically the whole of the complications which at the present time account for the fatalities which occur; further, that the early operation may be fairly placed in the same category as regards mortality with that performed during a quiescent interval."

But with regard to mortality in operation for appendix abscess, I may say that during the last three and a half years I have operated on 32 cases of appendix abscess with only one death. This was from perforation of the stump of the appendix, during the apparently satisfactory progress of the case. The appendix was gangrenous. This is the only case in which I have ever had leakage of an appendix stump. Up to three and a half years ago I had several deaths in children after operation in acute localized appendicitis, with symptoms like those of late chloroform poisoning. At that time I adopted the suggestion of Mr. Harold Stiles that chloroform should not be given to children in these cases, and have since then always had them anaesthetized with ether by the open method, and have had no death with such symptoms since.

It is most satisfactory that in Sir George Beatson's series of 69 cases of appendix abscess none of the serious complications arose which were present in the 59 cases referred to by Mr. Makins, but I feel sure it was not "dietetic or medicinal measures," as Sir George Beatson suggests, which led to the fortunate result. To put it in a few simple words, it seems to have been just good luck. Does Sir George Beatson wish us to believe that such measures will prevent kinking of coils adherent in the abscess wall, or subdiaphragmatic abscess, or empyema—complications which together make 11 out of the 22, or that they will prevent the occurrence of faecal fistula which existed in six more?—I am, etc.,

Bristol, July 13th. CHARLES A. MORTON.

SIR,—Sir George Beatson, in his reply to my letter, states that "the majority of cases of acute appendicitis can be brought to the interval stage by medicinal treatment without undue risk." That this is true of some cases is indisputable. There are, undoubtedly, two classes of cases—those in which recovery will ensue without operation and those in which it will not. That those in which recovery will not ensue are "small in number," and "easily recognizable," is an opinion which I venture to think is not held by the majority of those with much experience of acute appendicitis. It is because of the difficulty—nay, the impossibility in many instances—of distinguishing between these two classes of cases, that early operation is safer than procrastination.

Sir George assures us of the safety of his teaching, but does not tell us how the cases which may be safely left are "easily recognizable." The question of treatment turns on the possibility of this easy recognition. I asked Sir George a definite question, "Can he, or can he not, judge accurately the condition of the appendix in any given case, and foretell the future course of the disease—whether resolution will occur, or whether gangrene with diffuse general peritonitis will ensue?" To this plain question he has not yet given a plain answer; in his second letter he ignored it, in his third he evaded it by saying that "so long as a case of acute appendicitis is a localized one, there is no need to fix definitely the condition of the appendix." This, I venture to maintain, is begging the whole question. By his statement Sir George claims either that all cases of acute appendicitis are localized, which is not the case, or he claims to be able to say in which cases protective adhesions are present, and in which not. Does Sir George seriously claim such diagnostic skill?

"The advocates of immediate operation," says Sir George, "have no right to claim that all such cases when operated on have been snatched from the jaws of death." Surely no experienced surgeon would make any such preposterous assertion. Undoubtedly some of the patients submitted to early operation would have recovered had no operation been performed; but there remain a certain number in which at operation the appendix is found to be perforated or gangrenous, surrounded perhaps by some free-lying pus, and without any protective lymph formation. Is there any reasonable doubt that in such cases, were no operation performed, the infection would spread, and that a diffuse peritonitis would ensue? Evidently Sir George considers that such cases exist only in the imagination of the surgeon. I have had 14 such cases in my last 50.

Sir George Beatson ignores entirely the risk of infection from the appendix causing pleurisy, pneumonia, hepatic abscess, subphrenic abscess, or pyaemia. But if operation be postponed the risk of these complications supervening is no mere "conjured up contingency." In the days when I practised the expectant treatment I had under my care in one year 4 patients who died from one or other of these causes while waiting for an interval operation.

In the lecture to which he refers Sir George gives figures comparing his mortality-rate with that obtaining in the wards other than his own of the Western Infirmary. In view of these figures it would be interesting to know why Sir George's colleagues are not so impressed with his results as to follow his teaching.—I am, etc.,

London, W., July 13th. HERBERT J. PATERSON.

SIR,—It is not my intention to enter into the controversy on this matter, but as an advocate of the early operation I think the statistics which I am able to present may be of some interest.

My practice is to operate on practically every case of appendicitis that comes under my care. For a time cases of general septic peritonitis with distension were not operated upon, but I now nearly always make a small incision or incisions for drainage only, the removal of the appendix being left to a later date. In cases that are in an extremely toxic state when first seen I may deem it wise to wait for twenty-four hours, until the bowels have been got to move and until a greater or lesser amount of saline has been absorbed, and in cases of localized abscess I may defer the operation for from twelve to twenty-four hours as a matter of convenience. In all other cases the operation is carried out as soon as possible.

I attach great importance to the use of ether administered by the open method, to saline given by intermittent rectal injection or by subcutaneous infusion, and to the early evacuation of the bowels.

In almost every case the appendix is removed as an essential part of the operation.

As junior assistant surgeon I am not in a position to hand patients on, and the series represents nearly all the cases of appendicitis that have come before me. The following table shows the mortality of all my cases arranged under the different years:

TABLE I.

Year.	Total Cases.	Deaths.	Percentage.
Previous to 1907	64	8	12.5
1907	68	8	11.76
1908	89	7	7.86
1909	102	3	2.94
1910	107	2	1.86
1911	131	5	3.81
To end of June, 1912 ...	57	0	—
Total	618	33	5.33

I have made a practice of classifying the cases as shown in the next table, which gives the percentage mortality of the different groups.

Group 8 includes cases of intestinal obstruction which ultimately turn out to be caused by an acute appendicitis, and also cases admitted suffering from pylephlebitis.

In Groups 3, 4, 5, and 6, a certain number of secondary operations have been necessary for the evacuation of pelvic abscesses, intestinal obstruction, etc. These are all

TABLE II.

		Cases.	Deaths.	Per-centage.
Group 1 ...	Acute appendicitis without peritonitis	41	0	—
Group 2 ...	Acute appendicitis with localized peritonitis	115	1	0.86
Group 3 ...	Acute appendicitis with flank or pelvic peritonitis or both	72	3	4.16
Group 4 ...	Acute appendicitis with diffuse peritonitis	32	16	50.0
Group 5 ...	Appendicitis with residual abscess	40	3	7.5
Group 6 ...	Appendicitis with primary localized abscess	169	6	3.55
Group 7 ...	Appendicitis—interval removals	140	0	—
Group 8 ...	Appendicitis with primary complications	9	4	44.0
	Total	618	33	5.33

included in the compilation of the statistics, which therefore represent the mortality of appendicitis together with its complications.

In arriving at a just estimate of the mortality of operations for acute appendicitis it is necessary to deduct the cases operated upon in the quiescent period, and I think also that those in Group 8 ought certainly to be omitted. This leaves us with 469 cases of acute appendicitis with 29 deaths, a mortality of 6.18 per cent. If we also take the view that no patient ought to be allowed to develop general peritonitis, and deduct the 32 examples of this complication, with the 16 deaths, we are left with 437 cases and 13 deaths, a mortality of 2.9 per cent. in a consecutive series of unselected cases of acute appendicitis extending over a period of about ten years.—I am, etc.,

Newcastle, July 16th. G. GREY TURNER.

SIR,—While following the highly interesting correspondence proceeding in the JOURNAL on this subject, I have not observed that much has been said about the course of those cases of severe appendicitis which occurred in practice before the true pathology of the disease was recognized.

Accident brought to my notice a few days ago some fragments of an old notebook which I thought had long been lost. I find fairly clear, though somewhat crude, notes of one severe case, and very short ones of three others, all being acute severe types. Death followed in 3 out of the 4 cases, and no operation was performed in any of them. I regret that in 3 out of the 4 cases the notes are very short and fragmentary, but though no *post-mortem* examination was made, I have no doubt, in looking back, that they all were undoubted cases of appendicitis.

On November 2nd, 1888, I was called at 10 a.m. to A. D., aged 36, a butcher. I found a well-built, strong-looking man, who I ascertained had always previously enjoyed good health. Since late the night before he had been suffering from attacks of abdominal pain, which he attributed to a strain he said he thought he had got while loading a wagon of hay in the afternoon. The pain was of a colicky nature and paroxysmal; the paroxysms had become more violent, and pain was very severe and almost continuous when I saw him. He felt sick but had not vomited. The pain was more marked on the right side of the abdomen, there was a good deal of rigidity all over the abdomen, but most marked on the right side low down. His bowels had been well relieved in the early morning. Turpentine stupes were ordered, and I gave him 15 minims of tinct. chlorof. et morph., to be repeated in three hours if still in pain.

In less than four hours I was again sent for, as the pain was worse. This time my principal, an old practitioner of 70, saw him with me. A distinct fullness with dullness on percussion could be detected in the right iliac region. My diagnosis at my first visit was colic, and was now acute typhlitis, which my principal scoffed at, saying he knew it was a case of peritonitis, following obstruction of the bowels. My principal was a good surgeon of the old type and a shrewd, capable practitioner. He now suggested to the friends that he should operate, open the abdomen, and relieve any obstruction found. The friends and patient refused. He explained the action of the bowels, which I mentioned to him, by saying that the lower bowel only had been emptied below the obstruction. The patient steadily grew worse in spite of morphine subcutaneously, enemata, hot applications to abdomen, etc., and died on the fourth day of illness.

F. R., aged 16, draper's assistant, seen by me on May 11th, 1889. Had never been strong, but never had suffered from any definite illness other than colds before. For a few days before I saw him he had suffered from abdominal pain on and off, but not sufficiently severe to confine him to bed. At my first visit in the morning he was suffering from agonizing pain, which was most marked in the right iliac region. Tenderness, with decided lump, could be made out in the same region, and tenderness was marked all over the abdomen. He did not vomit, but felt sick at times. Temperature was 102°, pulse 120. He breathed fast, being afraid to take full breaths; no chest signs. His bowels were confined. Turpentine stupes were applied to the abdomen, and he was given liq. opii sed. with spr. aeth. sulph. co. Nothing was allowed by the mouth but sips of hot milk and water. The opium mixture was given in small but frequent doses, and he retained it. By evening the pain was somewhat relieved, but he did not sleep throughout the ensuing night. May 12th. Easier, dozed most of day, and took liquid nourishment frequently. Pulse 108, temperature 100.2°. He lies in bed with his knees drawn up. Still great tenderness of abdomen. May 13th. No return of severe pain. Still taking opium mixture, but less often. Bowels not open. Temperature 100°, pulse 104°. May 14th. Much better. Temperature 99°. Diminished dose and frequency of opium in mixture. Dose of castor oil, which acted after enema. From this time he steadily improved, and within a fortnight was out for short, gentle walks. I knew him for a year after this, and he had during that time no recurrence.

In 1895 I attended an errand boy, aged 11, for an abdominal attack which came on suddenly and soon showed marked swelling and tenderness in right iliac region. The attack commenced with shivering and sickness and severe abdominal pain, the day before I saw him. On the second day of seeing him I advised that he should be removed to the nearest hospital for operation. His parents refused. On the third day, his bowels not being open, his mother suggested a purgative, which I strictly forbade. His temperature on this (the third) day was 101°, his pulse 120. Pain and tenderness were localized to the right iliac region. He looked very ill. The fourth day, on my visiting him, I saw at once that he was very much worse. I then found signs of acute perforative peritonitis, and ascertained that castor oil in two large doses had been given. He died twenty-four hours after.

In 1896 a neighbouring practitioner asked me to see a case with him of typical acute severe appendicitis, which the previous day had shown signs of commencing peritonitis. The friends from the first refused operation. The patient was a well-built woman of 30; no children; she made a good struggle for two days, and then died without being operated on.

The first two cases occurred in a remote country district twenty miles from a hospital; the last two near London. All the cases were treated in the old way—opium or morphine, semi-starvation, strict rest, enemata for bowels, with two exceptions, one where the aperient was given against orders, the other after the patient had greatly improved. A fatal result in three out of four shows, of course, an appalling, and, I have no doubt, a quite exceptional mortality, not in keeping with the experience of many, but it must be remembered that they were acute severe cases.

The number is obviously far too small to draw any conclusions from, but in the light of my subsequent experience they are, I think, interesting. During the years that have followed I can, by reference to notes, etc., recall 47 cases that I have met with in general practice, either my own or my partner's. Of these, no fewer than 40 were operated on at some stage (many during a quiescent interval), with 1 death, and that one within eighteen hours of the commencement of the attack. The remaining 7, two or three of which were fairly severe, were not operated on and remain well.

The late Mr. H. L. Barnard, in November, 1903, read a paper at the Hunterian Society on appendicectomy. During the discussion which followed, I remember, he referred to his experience when he was a house-physician at the London Hospital several years before. At one time he saw (I forget the exact number) considerably over a dozen consecutive cases of severe appendicitis all recover without any operation.

There appear to be two schools on this question of treatment in appendicitis. The contention of one school is that there are no clinical signs which will enable you in all cases to distinguish between cases requiring operation as soon as the case is seen and those that do not; therefore, says this school, operate practically always from the first. The contention of the other school is that the time when many of these cases are operated on is so unsuitable a time that operation is often the last straw which brings about a fatal result. How are these two divergent views to be reconciled?

I cannot help thinking that the solution of the problem will be found by considering, not so much when the operation shall be done, as by considering how far can

the operation be so shortened and simplified as to produce the minimum amount of shock. Can some simple, yet efficient, operation be devised that, while increasing the safety of the patient for the time, will enable him to tide over the critical period and allow of a more radical operation being done later, when the condition of the patient will allow of it?—I am, etc.,

Bournemouth, July 14th. W. H. BEST.

SIR,—The important correspondence upon this topic has tended to emphasize the present orthodox view, that in cases of diagnosed appendicitis the proper treatment is the removal of the appendix, and that to delay the operation is an inexcusable courting of disaster.

Happily, in a profession like ours, knowledge is best gained by the multiplication of experiences, and I venture therefore, without any apology, to point to some interesting experiences of different treatment.

I think that it should not be so readily assumed that appendicitis will in the majority of cases proceed to the formation of a purulent abscess any more than that tonsillitis will in the majority of cases proceed to a tonsillar abscess. When, therefore, a surgeon gives his statistics of a hundred or more cases of immediate removal of the appendix upon the first diagnosis of appendicitis, with no fatality, it is not logical to assume that there would have resulted a large percentage of appendicular abscesses and some fatalities if an immediate operation had not been performed. What it does prove is that under proper surgical care an inflamed appendix can be safely removed.

Now I have had under my care about a hundred cases of appendicitis, and I have not had one operated upon, and I have not lost one. In several cases I have been warned by keenly experienced surgical colleagues that operation was urgently needed, and that surgery was the only rational treatment. Experience, however, proved that this was not so, and that rational medical treatment is efficacious in a very high percentage of cases of appendicitis.

A very striking case I had was one I saw again only a few weeks ago. He had had very skilled advice, and, as he hesitated about operation, one of the ablest of London's titled consulting physicians was called in consultation, and he confirmed the diagnosis and the recommendation for surgical treatment. This patient is to-day engaged in arduous public toil of a most strenuous and exacting character nearly twelve months from the date of the diagnosis and the confirmed advice of urgent surgical treatment. I think, therefore, there are strong grounds for considering whether appendicitis cases should not be treated more generally by the physician, and not handed over incontinently to the surgeon.—I am, etc.,

London, E.C., July 6th. JOSIAH OLDFIELD.

SIR,—After reading Sir George Thomas Beatson's letter in the BRITISH MEDICAL JOURNAL of June 29th, p. 1514, I am prompted to record my experience of acute appendicitis, inasmuch as it exactly accords with the view of the disease which he so clearly expresses—a view which has apparently suffered much obscuration in the "atmosphere of panic" which, he observes, has been created about the disease.

I am now in my twenty-fifth year of country practice, and I have not yet had a case of acute appendicitis which required operation; and I have not yet had a case which did not get well with treatment, following ordinary therapeutic measures; and I can recall very few cases which were confined to bed for more than a fortnight. I have no precise record of the number of cases I have had; last year, 1911, I had 12 cases; during the six months of this year, curiously, I have not had a case, but, presuming only on 5 cases a year, it is evident that my percentage death-rate is *nil*.

With an experience such as this—and surely it must also be the experience of many others not dwelling in the "atmosphere of panic"—it seems to me nothing short of extraordinary that so many surgeons proclaim a faith which demands immediate operation in every case of acute appendicitis, entailing as this does, under the best of circumstances, a prolonged convalescence, and under less satisfactory circumstances an obituary notice—"appendicitis (after operation)"—which the most optimistic surgeon cannot always regard as being merely *post hoc*.—I am, etc.,

Llansantffraid, July 1st. W. H. LEWIS.

SIR,—It seems a little ungenerous that Sir George Beatson and other advocates of the "wait and see" policy in the surgical treatment of appendicitis, while discussing at length many side-issues, evade the main issue and decline to inform the less enlightened members of the profession of the symptoms or signs by which they determine which cases it is safe to leave and which it is dangerous to leave without immediate operation. It is in the best interests and in accord with the best traditions of the profession that any knowledge which advances our treatment of disease should become common property, so that all may benefit by it.

In the JOURNAL of June 22nd I quoted a case, and gave chapter and verse for it, lest it might have been supposed to be a hypothetical one. I should like to ask Sir George Beatson or any of his followers:

1. Whether in their opinion such a case is safe to leave without immediate operation?

2. If not, by what symptoms or signs they would distinguish it from a case which is safe to leave?

The symptoms and signs in this particular case and the condition demonstrated at operation are given, not from memory, but from notes taken at the time. If they are of opinion that an appendix the size of a small sausage filled with foul pus, surrounded by no adhesions whatever, on the very eve of discharging its contents free into the peritoneal cavity, should not be immediately removed, they must be left to their opinion, and I see little use in prolonging the controversy. If, on the other hand, they are of opinion that such a case should be operated upon at once, then I think they are bound to tell us by what symptoms or signs they would come to such a conclusion and be able to distinguish it from a case that it would be safe to leave till the quiescent period.—I am, etc.,

Southsea, July 13th. CHARLES P. CHILDE, F.R.C.S.

*** We are prepared to receive a reply from Sir George Beatson, but cannot give further space to this correspondence. We are informed that the Medical Society of London propose to devote an evening at the beginning of the new year to the discussion of the question of the merits of the early operation in cases of appendicitis, and that Mr. Edmund Owen, whose letter on May 11th started the correspondence in our columns, will open the discussion at the society.

TINCTURE OF DIGITALIS: ITS POTENCY.

SIR,—I have been interested in the comments which Dr. Price and Dr. Gordon Sharp have been good enough to make on my paper on the potency of digitalis. It occurs to me that the discrepancy between the experience of these observers and my own may be partly explained in two directions—(1) the source of the tinctures, (2) the end-point of the observations.

1. As regards the source of the samples, I fear I did not sufficiently emphasize the fact that they came from the laboratory and not from the warehouse of the manufacturer. It is quite possible that some of the samples were sent for physiological examination because the manufacturer had doubts about the quality of the leaves on other grounds. I know that one firm does send samples for physiological examination before buying the leaves in bulk. The fact remains that these are samples made by chemists of repute according to the directions in the *Pharmacopoeia*.

2. The end-point I employ is that the frog must be as dead as Queen Anne within the four hours. If there is any doubt about the frog being dead I test the corneal reflex.

I fail to see how any amount of care in the selection of digitalis leaves will exclude the possibility of an occasional sample being too strong. That is the great danger. If a patient is supplied with a weak sample his medical attendant will in all probability increase the dose. But if a patient is supplied with a too potent sample the practitioner's opportunities of prescribing may cease altogether.—I am, etc.,

Edinburgh, July 6th. ALEXANDER GOODALL.

URIC-ACID-FREE DIET IN INOPERABLE CANCER.

Sir,—Dr. T. J. Horder (British Medical Journal, July 13th, p. 81) raises one or two questions of the deepest interest, but I wish to point out that there is absolutely no reason to choose between diet and surgery, for both can be used. No one could possibly advise against surgery in the present state of our knowledge. I invariably advise operation in malignant growth, and have done so in several cases which are still alive and well, having been on the uric-acid-free diet since operation, and better had they been on it before operation, as it is well known that this diet diminishes shock and favours the healing of wounds. I do not, however, claim the present immunity of these cases as due to diet, the data are insufficient.

But, if many cases are put on the uric-acid-free diet and are operated on as far as may be possible, we shall be able to judge of their recurrences as contrasted with ordinary cases, and shall thus obtain a measure of the effects of diet. Operated cases are really best for our purpose (provided they live long enough), as the exact nature of the disease is known.

No patient need lose flesh and become physically and mentally depressed, apart from the growth and its effects, for the exact quantity of proteid required in relation to body weight can be given on any diet, and Mrs. B. (British Medical Journal, 1912, vol. ii, p. 82) gained weight for a time. Dr. Horder might, therefore, have modified the diet by increasing the protein in Alice G., in place of taking her off it entirely; but his difficulty, and mine also, was that these patients were frightened of a diet which was strange to them, and it is useless to argue with hospital patients about protein quantities. Better educated patients can understand that there is no danger of starvation.

I offer these patients the diet that I myself live on, and on some modifications of which I have lived for nearly thirty years. It is the same that is to-day being lived on by hundreds and thousands throughout the world. There is nothing for them to fear, but they have been brought up in the baseless superstition that their present diet, which is not only the cause of cancer but of almost innumerable diseases and sufferings, is the only one on which it is possible to live. Yet the English are the great world travellers, and those who have travelled know well that only a small minority of the human race live as we do.

If any one who has charge of a large number of patients will test the effects of diet in cancer, the question of nutrition can at first be left out of the problem by keeping it the same in all. But, as some cases have been reported in which a diet low in protein appears to have aided recovery, or at least to have prolonged life and diminished suffering from a disease which, like gout, chiefly affects the vigorous and highly nourished, and as a similarly low protein diet is a useful temporary measure in the cure of gout, I think we should regard nutrition as offering a further problem to be worked out after the effect of freedom from uric acid has been investigated. Among others, the late Dr. George Keith, in his *Fads of an Old Physician* (London: Adam and Charles Black; chapter on Cancer, p. 83), says: "I know of no class of cases where the benefit that follows a change of living is so marked, and I am not sure that I know of any in which the change is so difficult to make"—the exact parallel of our present experiences. Dr. Keith follows these remarks by details of some of his own cases, which, if not entirely conclusive, are at least most interesting and suggestive reading; he even persuaded a professional friend to carry out a small research in pauper cases, with the result that the duration of life in these cases was undoubtedly prolonged.

Dr. Keith also raises a point (p. 96) of much interest in reference to reports on the prevalence of malignant disease among vegetarian natives of India, a matter which has given rise to much misunderstanding, both with regard to the etiology of cancer and other diseases, and which I may therefore again explain. The fact that these Indian races suffer furnishes no reason whatever for doubting the power of diet either in prevention or cure, for as their food contains various forms of the pulses, which are rich in xanthin, it would be extraordinary if they were free from cancer. As a matter of fact they are not free from it or from other uric acid disease, for vegetarianism is one thing, and freedom from uric acid another and quite different thing.

Dr. Keith's results are all the more valuable because they are empirical, the treatment was not applied with scientific accuracy, and all foods that introduce uric acid were not ruled out, but this only makes the partial success of the low protein diet more remarkable.

As regards cases treated with success by others, Dr. Keith makes two references to the British Medical Journal, but these are, unfortunately, so indefinite that I have not been able to verify them. I hope some of your readers may be able to do so.—I am, etc.,

London, W., July 16th. Alexander Haig.

MINERS' NYSTAGMUS.

Sir,—In reference to Dr. A. C. Norman's interesting letter in the British Medical Journal of July 13th, I may mention that my special point was the reason for movement of the eyes. I have shown that the foveal region is sensitized from the parafoveal regions, and that when there is no visual purple in the fovea it is blind.[1] I have devised several experiments which show the visual purple flowing into the foveal region. The following simple experiment shows this very well: If on awaking in the morning the eyes be directed to a dull, white surface, as, for instance, the ceiling, the region of the yellow spot will appear as an irregular black spot, and light will appear to invade this spot from without inwards. If the eyes be now closed and covered with the hands, purple circles will form round the centre of the field of vision, and gradually contracting reach the centre. When the circle reaches the centre it breaks up into a star-shaped figure and becomes much brighter. It then disappears, and is followed by another contracting circle. Now, it will be noticed that if one eye be opened when the circle has broken up a brilliant rose-coloured star much brighter than any other part will be seen in the centre of the field of vision. If we wait until the star has disappeared before opening an eye the macular region appears as a black spot as before. This shows conclusively that the central portion of the retina is sensitized from the peripheral portions. When the surrounding retina is not stimulated the eye has to be moved in order that the sensitized liquid round the cones should be made by its inertia to flow into the fovea. I find by direct experiment that we can see better with the fovea when light is allowed to fall on the adjacent portions of the retina, and this stops the movement of the eye which occurs even in normal-sighted persons.—I am, etc.,

London, N.W., July 15th. F. W. Edridge-Green.

SIR CHARLES BELL AND WATERLOO.

Sir,—The following may be of interest. In *Paul's Letters to His Kinsfolk*, by Sir Walter Scott, 1816, p. 143, one finds:

> The engagement had already commenced. It is said Buonaparte fired the first gun with his own hand, which is at least doubtful. But it is certain he was in full view of the field when the battle began, and remained upon it till no choice was left him but that of death or rapid flight. His first post was a high wooden observatory, which had been constructed when a trigonometrical survey of the country was made by order of the King of the Netherlands some weeks before. But he afterwards removed to the high grounds in front of La Belle Alliance, and finally to the slope upon the road to Brussels.

For this reference I am obliged to a patient with a strong literary bent and an excellent memory.—I am, etc.,

June 19th. W. R. P.

MEDICAL MEN IN THE HEBRIDES.

Sir,—Will you allow a descendant of Mary Bethune to correct some inaccuracies in the letter on medical men in the Hebrides in your issue of June 22nd?

The Beatons, Beatouns, or Betuns, the doctors, were of Skye originally, not of Mull. Their name was MacBane, and when they came into the Lowlands they desired to conceal their Celtic origin and called themselves by a respectable name, to which they had no right unless the original *Bane* from whom they were descended was a Betun who went north, which is not asserted nor likely.

[1] *Hunterian Lectures on Colour Vision*. Kegan Paul and Co. 1911.

The principal doctor, who was Court physician to James I and VI, was not one of this clan of Highland doctors, but was descended from the numerous illegitimate family of the Cardinal.

Mary Betun or Beaton, the Queen's Mary—"Mary Betun and Mary Seton and Mary Carmichael and me" (that is, Mary Fleming or Hamilton)—was the daughter of Sir Robert Betun of Creich, keeper of Falkland Palace and Park, and of Jeannette de Renville, a lady-in-waiting to Marie de Guise, mother of Mary Stuart. She (Mary Betun) was second cousin once removed to James the Archbishop of Glasgow, Queen Mary's counsellor, and of the two young Betuns who helped Mary to escape out Loch Leven.—I am, etc.,

London, W., June 25th. GEORGINA F. MALDEN.

FORCIBLE FEEDING.

SIR,—Mr. McKenna has now forwarded to us the so-called medical counter-memorial in favour of the forcible feeding of Suffrage prisoners, which he stated to the House of Commons he had received, and for the publication of which we pressed.

This counter-memorial is as follows:

The Right Hon. Reginald McKenna.

We the undersigned registered medical practitioners desire to place on record our unanimous opinion that the operation of feeding persons who refuse nourishment in the ordinary way by means of a stomach-tube, or otherwise, is not, if carried out under the usual rules of procedure, either dangerous or painful. Any inconvenience which may arise to the individual operated upon can be at once removed by their taking the food provided in the ordinary manner. It is the duty of the medical officers of His Majesty's prisons to prevent prisoners from attempting, or committing, suicide by starvation, or from injuring their health and strength by declining nourishment; and the only course left for adoption in these cases is to feed such prisoners by the mouth by means of suitable apparatus.

We therefore most respectfully trust that the medical officers who have to carry out these duties, however unpleasant they may be, both to the operators and those operated upon, may receive the support and protection of yourself as the Home Secretary and their superior authority.

We beg to remain,
Your obedient servants.

No names are appended to this memorial. Mr. McKenna states that he withholds the names of the signatories lest they should be annoyed.

To Mr. McKenna we have sent the following reply:

July 16th, 1912.

Sir,

In reply to your letter of July 13th and to a brief passage which has appeared to-day in three newspapers, we repeat the protest we have already been obliged to make in our letters of June 30th and July 4th and 10th instant against your repeated and studied misrepresentations of the medical memorial signed in twenty-four hours by 117 practitioners and presented by us on June 27th, for, although you have our subsequent correspondence before you, you state that the medical memorial did not suggest that your practice of forcible feeding should be discontinued merely as regards one particular class.

This is not correct, for, as we reminded you in our first letter on June 30th and again on July 4th and 10th instant, our memorial protested against the forcible feeding of "one particular class of prisoners"—namely, the suffrage prisoners. Further, you say in your letter just received that you have entirely failed so far to ascertain the views of the memorialists on the general question of the treatment of all prisoners—that is, felons—a matter with which, as we have repeatedly informed you, the memorialists did not deal.

Although you thus admit that you have never had any knowledge of the views of the memorialists on this general question, you nevertheless actually made to the House of Commons on July 4th a written statement in answer to Mr. Goldman (and published on July 4th in several papers) in which you represented to the House that you had much knowledge of the views of the memorialists, and that they were unable to make any suggestions on the subject.

In this matter you have thus directly contradicted yourself. We have read the copy of an anti-memorial you have sent us purporting to have been written by certain medical practitioners. It, however, has no value as a medical opinion, since it is unsigned and unsupported by any names of such practitioners. From internal evidence it is obviously official and not medical, for two-thirds of its sentences are your own and taken almost verbatim from your statements in the House of Commons made on the following dates: April 15th and 17th, May 28th, June 20th and 28th and July 2nd, all of the present year (see Hansard).

The first statement in this counter-memorial is as follows: "Feeding persons by means of a stomach tube or otherwise (*sic*) is not, if carried out under the usual rules of procedure (*sic* either dangerous or painful."

From a medical standpoint this sentence is an evasion of the truth. It does not state what is meant by the words "otherwise" and "usual rules of procedure," and evidently your anti-memorial refers to something which has no resemblance whatever to the forcible feeding practised under your directions in H.M. Prisons, for your practice on the Suffrage prisoners has proved so dangerous to "health and life" that, as stated by Mr. Ellis Griffith in the House of Commons (Hansard, June 26th), you have been compelled to release large numbers of them in order to save their lives, and as you are well aware, you have inflicted by your treatment an incalculable amount of physical pain and mental anguish on your victims.

We note, as everyone must, that you produce no medical evidence in support of the irresponsible statements of your anonymous memorial, or that your forcible feeding of the Suffrage prisoners has been anything else than a dangerous torture.

—We are, etc.,

AGNES SAVILL,
CHAS. MANSELL MOULLIN,
VICTOR HORSLEY,
London, W., July 17th. Secretaries to the Medical Memorial.

⁂ It has seemed right to publish the information contained in the above letter, but we cannot undertake to find space for further correspondence on this subject.

Universities and Colleges.

UNIVERSITY OF EDINBURGH.

GRADUATION CEREMONIAL.

ON Friday, July 12th, a graduation ceremonial took place, when the following were among the degrees and diplomas conferred:

HONORARY LL.D.—Professor H. B. Allen, M.D., University of Melbourne; Professor R. Ramsay Wright, M.A., B.Sc., University of Toronto.

M.D.—J. Allison, *F. Armstrong, J. H. Aytoun, *D. M. Barcroft, *W. Bell, *G. S. Blandy, *J. C. Boyd, ‡T. G. Brown, B.Sc., †J. A. Campbell, *R. B. Campbell, ‡J. K. M. Dickie, *A. M. Elliott, J. S. Elliott, Isabella G. Emslie, R. R Fasson, †T. Y. Finlay, ‡J. Fraser, *T. Galbraith, A. W. Gill, J. F. Haegert, *A. G. Hamilton, J. Honeyford, J. J. Jervis, E. Kinmont, †L. Kurz, †J. Langwill, P. Lornie, G. H. Lowe, A. Macdonald, J. M'Donald, K. B. MacGlashan, D. Macnair, †A. MacRae, M.A., T. B. Mouat, A. B. Pearson, *J. A. Raeburn, Mabel L. Ramsay, ‡D. G Robertson, F. F. S. Smith (Capt. I.M.S.), *K. F. Sontagg, T. Stevenson, †T. G. Stewart, *V. F. Usher, †W. O. Welply, T. Wright.

* Commended for Thesis. † Highly commended for Thesis.
‡ Awarded Gold Medal for Thesis.

M.B., CH.M.—Edward George Richards.

M.B., CH.B.—G. M. Adam, W. A. Alexander, T. M. Anderson, S. H. Arthur, A. Baldie, §A. J. Ballantine, B.A., M. L. Bangara, §F. J. H. Begg, R. C. Begg, J. H. Boag, §G. V. Bogle, S. Bolton, J. C. Booth, W. A. Bowie, §W. E. Bullock, A. D. Campbell, ‖S. B. Campbell, W. J. Candlish, J. F. Chalmers, S. C. Chatterjee, O. Cook, D. S. Cooper, Effie M. D. Craig, F. W. Craig, J. H. Cuthbert, F. C. Davidson, J. P. Davidson, R. B. Davidson, P. L. Davies, C. G. Deane, Janet S. Doak, D. A. Donald, G. A. C. Douglas, F. B. Dreyer, G. M. Elliott, K Faderin, R. Fawcitt, A. K. Forbes, H. H. C. Fuller, R. Grant, A. C. V. Green, R. A. Greenwood, J. F. C. Haslam, R. Hay, J. A. Henderson, T. P. Herriot, J. G. Hill, T. H. Herrax, H. D. M. Imrie, Sesi Kapo, W. N. W. Kennedy, Janet S. Laird, J. H. Lamb, J. Lamberton, Christine Larsen, M. B. Lawrie, D. C. Lee, D. P. Lindsay, ‖W. S. Lindsay, S. J. Linzell, Isabella M. Little, N. L. Lochrane, P. C. Lornie, W. H. A. S. Loutit, G. M'Connel, P. K. M'Cowan, W. Macdonald, A. M. Mackay, M. R. M'Kay, J. M'Kerchar, J. C. M'Kerrow, J. W. M'Kinney, Gertrude D. MacLaren, J. S M'Laren, W. F. M'Lean, D. M'Phail, G. G. Marshall, C. A. Mason, A. W. Mather, A. Mearns, W. Mercer, Sara O'Flynn, S. Osborn, J. L. D. Pawan, H. F. Penman, ‖E. D. Pullon, B.Sc., F. Radcliffe, G. C. Ramsay, R. K. Robertson, A. Romanes, C. M. Rout, A. A Rutherford, R. B. Rutherford, E. R. Ryner, Dorothy M. Scott, §J. M. D. Scott, E St. J. Seelly, E. Sharpe, W. M. W. Shepherd, ‖A. W. S. Sichel, J. C. Smith, ‖S. A. Smith, J. E. Snodgrass, R. S. Stevenson, W R. Stewart, R. K. S. Sutherland, R. H. Tait, M. Teitelmann, G. ap Thomas, C. V. Thornton, W. G. Thwaytes, C. J. Tisdall, J. S. du Toit, G. D. E. Tullis, M. A. Wajid, M.A., B.Sc., G. Walker, R. E. Walker, S. J. A. H. Walshe, F. H. C. Watson, R. R. Watts, B. Whinbren, A. R. Wightman, H T. Young.

‖ First Class Honours. § Second Class Honours.

B.Sc. (*Public Health*).—L. W. Macpherson, J. W. Senter, and J. R. Stott.

DIPLOMA IN PSYCHOLOGY.—W. Boyd, R. D. Brown, W. L. Martin, G. D. Robertson.

Scholarships and Prizes.

The following awards were intimated:

The Gunning Victoria Jubilee Prize in Anatomy: John Kolbe Milne Dickie, M.D., Ch.B.

The Ettles Scholarship: Samuel Burnside Boyd Campbell, M.B., Ch.B.

The Allan Fellowship in Clinical Medicine and Clinical Surgery: William Ewart Bullock, B.Sc., M.B., Ch.B.

The M'Cosh Graduate's and Medical Bursaries: Disney Hubert Dusch Cran, M.B., Ch.B.

The Beaney Prize in Anatomy and Surgery: Samuel Burnside Boyd Campbell, M.B., Ch.B.

The Mouat Scholarship in the Practice of Physic: Archibald Romanes, M.A., M.B., Ch.B.

The Conan Doyle Prize: Alan William Stuart Sichel, B.A., M.B., Ch.B.

The Annandale Gold Medal in Clinical Surgery: George M'Connell, M.B., Ch.B.

The Buchanan Scholarship in Gynaecology: Gilbert Vere Bogle, B.A., M.B., Ch.B.

The James Scott Scholarship in Midwifery: William Nicol Watson Kennedy, M.B., Ch.B.

The Dorothy Gilfillan Memorial Prize: Janet Stewart Laird, M.B., Ch.B.

The Pattison Prize in Clinical Surgery: Henry James Craig Gibson, M.A.; John Owen Reid—equal.

The Cunningham Memorial Medal in Anatomy: James Elvins M'Cartney.

The Straits Settlements Gold Medal: George Carmichael Low, M.A., M.D., Ch.B.

The Wellcome Medals in the History of Medicine: Gold Medal, James Simpson Rankin; Silver Medal, James Hepburn.

Address by Professor Alexis Thomson.

Professor Alexis Thomson gave an address in the course of which he said that as promoter it was his privilege to offer some unsolicited advice, and the first instalment must be of a negative order. Do not let them decide in a hurry on their future line of work. Do not let them be tempted to accept an undesirable appointment because there was a salary attached to it. Doctors should beware of salaries. Do not marry until settled in some definite line of work; an early marriage was apt to limit the field of selection of work; a judiciously timed marriage was said to greatly help medical practice. The first positive advice he had to give was to obtain a hospital residency for six or even twelve months. Such an appointment enabled a man to look around, and perhaps find out in which direction he excelled and in what branch of medical work he was most likely to succeed. The association of hospital work tended also to broadmindedness and diminished the tendency to the development of fads. He would suggest that when they did go into practice they should be chary of adopting extreme views on debatable questions, such, for instance, as what is the most appropriate diet for a community, or should indulgence in tobacco or alcohol be abolished or encouraged? He might hint that doctors were on the whole too ready to give advice, whether they knew anything about the subject or not, and he took it to be one reason of the almost universal success of Scottish doctors, especially in England, that they were more reticent, and therefore got the credit of knowing more than they did. They should be cautious in using the words "always" or "never"—they had no place in a medical vocabulary—and particularly chary of adopting, and still more of airing, views which were opposed to the great majority of their professional brethren; above all, avoid identifying themselves with any of the "anti" associations or societies which found favour in the country.

Dealing with the Insurance Act, Professor Thomson said: Living, as we do, in a democratic age, we must deplore the fact that nine-tenths of the national sickness was due to ignorance or folly, and ought to be prevented. Preventable disease was pure waste. Unfortunately the exigencies of our political system were such that, although the supreme importance of the national health was recognized, there was no ministry or department of public health that could advise the Government in framing legislation. Hence it came about that measures, of which the principle was unimpeachable, such as the National Insurance Act, contained provisions detrimental to the moral and material interests of the profession, and indirectly thereby to the public, for it could not be too often repeated that the interest of the medical profession and the public act and react in a manner to make these interests practically identical.

During the past five years or so they had as students been trained to recognize and fight disease. They were individualists, self-reliant, and, with the aid of their books and instruments, were prepared for the conflict with disease, but they would not be a month in practice before they realized that there was another side to the doctor's life, namely, his relation to the State, and to national health; in other words, the individualist came up quickly against sociological problems, against laws closely affecting him as a practitioner, in the framing of which he had not had word or say. He could not help thinking that in the last year of their studies they should have some instruction on that aspect of their future careers, not as a subject of examination, but as a matter of counsel and advice, as to their relation to the State and to the public, as a citizen versed in medical affairs. Where, then, were they to turn for such counsel and advice? Fortunately for the profession and the public, there was a body which ten years ago, realizing the increasing community of interest between the legislator and the doctor, formed a branch department devoted to medical politics. He referred to the British Medical Association. In recent years, he might say months, this medico-political department had been the only means of expressing the organized advice and opinions of the profession on legislation affecting the national health and its curators, the medical profession. He felt it his duty, therefore, to advise all those who had just been added to the list of graduates to add membership of the British Medical Association to their armamentarium.

UNIVERSITY OF LIVERPOOL.

Degree Day.

A DEGREE congregation was held on July 6th, in St. George's Hall. The Vice-Chancellor, in opening the proceedings, referred to the loss to the city and university by the death of Dr. Peace, the City Organist. Also of the late Dr. Waters, who together with the late Professor Campbell Brown, was one of the little band of men who succeeded in establishing the University College. They had many rebuffs and disappointments, but they never lost courage; but for them and for what they did those present would not have seen what they saw that day. In congratulating those who were about to graduate the Vice-Chancellor complimented them on being kept in safety during years of peril. They knew how easy it was to make shipwreck, and from many temptations they had been saved. While they gave thanks for their success, let them at the same time remember to give thanks for their safeguarding. Now that they were passing into a new life he asked them to remember three things. In the first place, let them keep the friendships they had made as an abiding possession; if friendships were worth anything they ought to be not only a joy but a strength. In the second place, let them carry and keep the memories of the university to which they belonged. Many conflicts lay before them, and they would tax their strength and endurance. It might help them in their hour of difficulty, wherever they were, to remember they belonged to the university just as much as the university belonged to them. Lastly, he would ask them to carry and keep their ideals. In the midst of the years when they had to bear the burden and strain of life and when they might be tempted to live in the plain and be content with lesser things, it might serve and save them if they could recover and regain the hours of visions and dreams, and would turn their eyes and fix them upon the hills "whence cometh our strength."

The Chair of Pathology.

The appointment of Dr. Ernest Glynn, to succeed the late Sir Rubert Boyce as George Holt Professor of Pathology in the university, is the most popular that could have been made, and the whole university staff and students alike join in congratulations to him on the well-earned promotion. An old student of the university, Dr. Glynn has held every post of honour to which students could elect him. As assistant for many years to Sir Rubert Boyce, he proved himself an excellent teacher, and the evidence of the leading pathologists in the country prove that in research in his subject he has gained a distinguished place. There is no doubt with the added dignity and responsibility of a university chair, the new professor will render conspicuous service to the university in the future. His election creates an interesting record, this being the first occasion on which father and son have been members of the University Senate at the same time. Dr. T. R. Glynn, the Professor of Medicine, has received many congratulations upon the success of his son.

Memorial to Sir Rubert Boyce.

Friends of the late Professor, Sir Rubert Boyce, have offered to bear the expense of the erection of a memorial tablet to his memory in the university buildings. The site has not yet been determined. The natural position would seem to be in the Thompson-Yates laboratories, where Sir Rubert did so much good work.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved for the degree of M.D.:

†Frances M. Huxley, *Catherine Chisholm, *H. Coppock, *Gertrud H. Hickling, *W. Wilson, C. Hibbert, F. H. Lacey, G. F. Wrigley.

† Gold medal. * Commendation.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY council was held on July 11th, Sir R. J. Godlee, Bart., President, in the chair.

Election of Members of Council.

The following four gentlemen were duly elected, by ballot, as members of the Council, on July 4th:

	Number of Votes.
Sir Anthony Alfred Bowlby	507
Sir Frederic Samuel Eve	427
Mr. D'Arcy Power	405
Sir Berkeley George Andrew Moynihan ...	394

Instruments of the late Lord Lister.

The best thanks of the Council were given to the executors of the late Lord Lister for presenting to the College a collection of some of his surgical instruments.

Appointment of Delegates.

Mr. R. Clement Lucas was reappointed the Representative of the College on the Court of Governors of the University of Sheffield for the ensuing three years.

Mr. C. A. Ballance was appointed as delegate to represent the College at the Ninth Otological Congress to be held on August 12th to 17th, in the buildings of the Medical Department of Harvard University.

Election of Officers for the Ensuing Year.

Sir R. J. Godlee was re-elected President.

Mr. C. T. Dent and Mr. G. H. Makins were elected Vice-Presidents.

Appointment of Lecturers.

Hunterian Professors: Arthur Keith (six lectures); Wilfred Batten Lewis Trotter (two lectures); William Wright (two lectures); Joseph Ebenezer Adams (one lecture); Kenneth Macfarlane Walker (one lecture).

Arris and Gale Lecturers: William Blair Bell (two lectures); Charles Gabriel Seligmann (one lecture).

Erasmus Wilson Lecturer: Samuel George Shattock.

Arnott Demonstrator: Arthur Keith.

CONJOINT BOARD IN ENGLAND.

THE following candidates have been approved at the examination indicated:

Anatomy and Physiology.—J. G. Ackland, W. G. E. Allen, J. Andrew, A. L. Anthony, J. D. Bangay, P. Cheal, H. Collins, E. Coomaraswamy, E. S. Cuthbert, E. I. Davies, G. S. Deane, L. B. de Kretser, S. E. Y. Elliott, C. L. Emerson, M. Fahmy, L. H. Garcés, W. T. Gwynne-Jones, G. H. Haines, D. N Hardcastle, L. Horsley, G. P. Kidd, N. S. Koch, G. C. Kusumbekar, G. S. Marshall, A. D. Marston, D. S. E. Milligan, W. H. Milligan, E. Morse, A. W. North, T. Owen, C. F. O. Panditheséker, M. Pearson, V. D. Phatek, Isabel Quanbrough, C. H. Savory, J. G. B. Smith, C. S. Staddon, W. F. Stiell, R. R. Sy-Quia, G. S. Terry, D. C. Thomas, C. T. Tresidder, B. M. Tuke, F. H. Vey, J. Victory, W. G. L. Wambeek, F. E. Weerasooria, K. J. F. Westman.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE.—*Miss E. Budd, *B. Hirson, *Miss M. McMullen, T. S. Ambrose, H. M Alexander, H. E. Andrews, D. Boland, M. Bradley, J. F. Coffey, T. Curran, E. C. H. Ewart, D. H. Ferris, J. A. Fretton, F. B. Harrison, H. Levison, E. McCarthy, T. F. Moran, C. Murray, J. P. Pegum, C. W. Robinson, J. P. Sheridan, G. C. L. Woodroffe.

THIRD COLLEGE.—*R. J. Brookes, *J. Lanigan, R. A. Austin, H. A. S. Deane, G. S. Douglas, F. B. McTavish, J. J. O'Connell, H. O'Donoghue, J. J. Reynolds, M. Shipsey, F. M. Taylor.

FINAL.—W. I. Adams, P. J. Burke, U. L. Bourke, H. C. A. T. Cannon, W. H. Condell, M. Garry, J. Good, R. M. Gordon, R. F. Griffith, F. Hannigan, M. J. Hillery, J. M. Horan, W. H. Johnston, T. Kennedy, M. Meehan, F. P. McDermott, C. Molan, H. E. O'Brien, A. A. O'Connor, J. C. O'Farrell, A. J. Patterson, D. P. H. Pearson, J. B. Power, S. Punch, M. Quinlan, Miss B. Sieff, V. J. White, G. Young.

* With honours.

Obituary.

THE HON. CHARLES BENJAMIN MOSSE, C.B., C.M.G., Deputy Surgeon-General, A.M.D. (ret.), and late Superintending Medical Officer and M.L.C., Jamaica, died at Oberland, Guernsey, on July 4th, at the age of 82. He obtained the diploma of M.R.C.S.Eng. in 1852, and that of M.R.C.P.Irel. in 1880. He entered the Army Medical Service in 1858, and served in the Expeditionary Force up the River Gambia, West Africa, in June, 1866, when he was present at the assault and capture of the stockaded Mandigo town of Tubarcolong and was mentioned in dispatches. In 1867 he was promoted for valuable services during an epidemic of yellow fever at Bathurst. He served throughout the Ashanti war, 1873-4, being again mentioned in dispatches; he was made a C.B. and received the medal with clasp. He retired from the Army Medical Service in 1876, and became Superintending Medical Officer for Jamaica in June, 1896. He relinquished this post in 1904.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are: Dr. Marc Sée, formerly Surgeon to the Paris hospitals and member of the Académie de Médecine; Dr. L. Rolland, Senator for the Tarn-et-Garonne; Dr. Augustus Peck Clarke, sometime Professor of Gynaecology and Abdominal Surgery, Dean of the Boston College of Physicians and Surgeons, and Honorary President of the Section of Obstetrics and Gynaecology of the Twelfth International Congress of Medicine held at Moscow in 1897, aged 79; Dr. Imbert-Goubeyre, sometime Professor in the Medical School of Clermont-Ferrand; Dr. Theodor Gies, Professor of Surgery in the University of Rostock, aged 67; Professor Josef Bauer, Director of the First Medical Clinic in the University of Munich, aged 69; Dr. L. Scully, Professor of Surgery in the University of Jassy; Professor Ludwig Bach, Director of the Ophthalmological Clinic at Marburg, aged 46; Dr. Gunning, sometime Professor of Ophthalmology in the Medical Faculty of Amsterdam; and Dr. Karl Kunn, Editor in Chief of the *Wiener klinische Rundschau* and Lecturer on Ophthalmology in the University of Vienna, aged 50.

Public Health AND POOR LAW MEDICAL SERVICES.

SWIMMING BATHS.

NESTOR.—There is considerable difference of opinion as to the possibility of infectious diseases or skin affections being spread through the medium of swimming baths. The question was discussed at a meeting of the Medical Officers of Schools Association on February 22nd, 1912, when the Council of the Association was asked to appoint a Committee to consider what steps should be taken to investigate the matter further. The evidence at present appears to be of a negative character. A full account of the discussion will be found in the May number of *School Hygiene*, published by Adlard and Son, 23, Bartholomew Close, E.C.

PRIVATE BURIAL GROUND.

T. E. F. asks: Is there any enactment prohibiting the burial of a body in a rural district, outside a recognized burial ground, if the place of intended burial is more than 100 yards from the nearest house, and if the death has been properly notified to the registrar, and a certificate given by him?

*** In Little's *Law of Burial*, third edition, p. 386, it is stated that a dead body may be buried in any private ground beyond a radius of 2 miles from the metropolis, provided: (1) That a nuisance is not thereby created; and (2) that no Order in Council is in force prohibiting burials in the district within which such ground is situate. In such a case, however, it seems from the definition of "burial ground," in Section 7 of the Registration of Burials Act, 1864, that a register must be provided, and the provisions of that Act observed so far as it may be possible to observe them. Section 7 of the 1864 Act provides that the term "burial ground" shall include a vault or other place where any body is buried.

The Services.

ALEXANDER MEMORIAL PRIZE.

THE Alexander Memorial Prize, consisting of £50 and a gold medal, is awarded every third year to the writer of the best essay on a subject connected with military medicine, surgery, or hygiene. The competition is open to executive officers of the Royal Army Medical Corps on full pay, with the exception of the professors and assistant professors of the Royal Army Medical College during their term of office. The subject for the next prize is the following: "The Management in the Field of Mumps, Measles, Scarlet Fever, and Small-pox." The question of treatment need not be considered. No essays should exceed in length about 20,000 words, exclusive of tables, which may be added in the form of appendices. Essays must be sent in to the Secretary of the Prizes Committee, Royal Army Medical College, Grosvenor Road, London, S.W., on or before December 31st, 1914. Each essay to have a motto, and to be accompanied with a sealed envelope bearing the same motto, and containing the name of the competitor.

THE ABOR EXPEDITION.

IN his report describing the recent operations against the Abors on the north-eastern frontier of India, Major-General H. Bower, in referring to the work done by the officers of the Indian Medical Service, says that to the efficient carrying out of sanitary and other medical duties, the comparatively good health and absence of epidemic disease is largely due. He states that Major J. Davidson, Assistant Director, Medical Service, did well in that capacity; that Captain C. W. F. Melville, who acted as staff surgeon and accompanied exploration parties, was a very good officer, and well worthy of advancement. He also stated that the good work done by the following was noticeable: Captain J. S. O'Neill, First Class Sub-assistant Surgeon Mahadeo Parshad, Second Class Senior Sub-assistant Surgeon Niranjan Das. The report also states that Surgeon-Captain J. M. Falkiner, Assam Valley Light Horse, volunteer officer with the Ledum column and Lakhimpur military police, served throughout without remuneration, and that his services are worthy of commendation.

Medico-Legal.

LUNACY RECEPTION ORDERS.

AT Christchurch, on July 12th, Dr. A. B. Batley attended the magisterial court to answer a technical charge brought against him by the Lunacy Commissioners. It was to the effect that a patient who had been resident at his house for between two and three years, and who was subsequently certified and admitted to an asylum, had been insane while he was in Dr. Batley's house, and that therefore a reception order in respect of him should have been obtained. The evidence tendered showed that the belief that the patient must have been insane at the time in question rested on the opinion of two medical men who had seen the patient subsequent to his certification, and on passages in letters that had passed between Dr. Batley and the patient's friends. It was also shown that between the time that the patient left Dr. Batley's house and his admission to an asylum he had been attended by Dr. Batley as the family adviser, and that it was on Dr. Batley's advice that the case was eventually certified and sent to an asylum; also that the patient's friends had not previously regarded him as an insane person, but merely as one physically weak and suffering from mental troubles of a senile order.

When the prosecution's case had closed, counsel for the defence, instructed by Messrs. Le Brasseur and Oakley, on behalf of the London and Counties Medical Protection Society, submitted that no prima facie case had been made out. The professional witnesses for the prosecution had admitted that it was impossible for them to state definitely on what date the patient's lunacy commenced, and that it was a case in which the development of lunacy might have been rapid, and that the opinions they had expressed were merely hypothetical.

The Court, after a short consultation, stated that it was not satisfied that the patient was insane at the time mentioned in the indictment, and therefore dismissed the charge.

SIGNING OF LUNACY CERTIFICATES (SCOTLAND).

D. M. M.—Private patients cannot be received into an asylum, hospital, or licensed house without a reception order made out by a magistrate (in Scotland this is usually granted by the sheriff of the county or his substitute). This order has to be accompanied by two medical certificates under the hands of two medical practitioners, and one of the two certificates must, if practicable, be given by the usual medical attendant of the patient. The foregoing applies to private asylums where patients are admitted on payment for board, etc. In this instance the medical superintendent is not allowed to grant a medical certificate—in the case of only one medical certificate accompanying the patient—the rule being that an outside practitioner in the neighbourhood is called in to grant the necessary second certificate. In the case of district or pauper asylums, where the patients are not admitted for "gain," the medical superintendent can sign the second certificate if such is required. It may be mentioned that in the Lunacy (Scotland) Bill, at present before the House of Lords, the following clause appears with reference to the signing of medical certificates:

"8. In order to explain and give full effect to the enactment of Section 13 of the Act of 1866, and with a view to facilitate the action of the Board in dealing with pauper lunatics, it is hereby enacted that the provision of the above-named section relating to the grant of an order on one medical certificate shall be equally applicable in the case of the Board granting their sanction, as in the case of the sheriff granting his order, and shall apply in either case notwithstanding anything contained in the Act of 1857 or any definition of lunatic in the Lunacy (Scotland) Acts, and shall also apply whether the application to the Board is for reception to a house or to the lunatic wards of a poorhouse."

"Board" means the General Board of Commissioners in Lunacy for Scotland. The section only applies to pauper lunatics.

PRINCIPAL AND ASSISTANT.

"TYRO" writes that he has been engaged to act as an assistant in charge of a branch practice in a country district, at a salary of £200 per annum and a house. He finds that the practice is very scattered, and to do the work some mode of conveyance is necessary. He thinks it might be done by means of a motor bicycle. He wishes to know upon whom should fall the original cost of providing this. He would be quite willing to pay for the upkeep.

*** If "Tyro" were a partner in the practice, he would be required to pay a share of the cost of providing necessary means of conveyance in proportion to his share of the practice. As he is a paid agent we are advised that it is the duty of the principal to provide all that is necessary for the proper carrying on of the practice.

PROFESSOR THEODOR KOCHER, of Bern, has been elected President of the recently founded Swiss Surgical Society. Professor Girard is Vice-President. The society will meet twice a year in the different cantons of the Swiss Confederation in turn.

Medical News.

A COURSE of post-graduate lectures will be given at the London School of Dental Surgery, Leicester Square, during October and November.

THE Lord Mayor of London, Alderman Sir T. B. Crosby, will visit the West London Hospital, Hammersmith, on July 25th, at 5 p.m., when he will be elected an honorary member of the West London Medico-Chirurgical Society, and afterwards inspect the wards of the hospital.

ACCORDING to Reuter the portfolio for native affairs in the new Ministry in New Zealand will be entrusted to Dr. Pomare. Dr. Maui Wiremu Piti Naera Pomare, of Wellington, graduated M.D. at the American Medical Missionary College, Chicago, in 1900.

THE Guild of St. Luke, composed of Catholic medical men, will, by permission of the Council, hold a meeting in the theatre of the Liverpool Medical Institution, on Wednesday, July 24th, at 2 p.m., when a paper will be read on the attitude of the Catholic physician and surgeon to the question of the sterilization of the unfit.

A MEETING of the International League for the Study of Epilepsy will be held at Zurich on September 6th and 7th, 1912. Professor Tamburini of Rome will preside. A number of papers will be read, and amongst those contributing to the work of the league are Drs. Donath (Budapest), Ulrich (Zurich), Binswanger (Jena), Claude (Paris), Mingazzini (Rome), Munson (Craig Colony), Aldren Turner (London), and Muskens (Amsterdam). The address of the secretary of the league is 286, Overtoom, Amsterdam.

AT a meeting in the Burgh Court-room at Clydebank on June 28th, Dr. William Butchart was the recipient of an illuminated address, a silver casket, and a purse of gold, presented to him by his fellow-townsmen in acknowledgement of his work as Superintendent of the Renfrew and Clydebank Joint Hospital, and in various other public capacities. On the same occasion Mrs. Butchart was presented with a silver salver bearing an appropriate inscription.

DR. S. Y. Ho, Surgeon-General to the Northern Forces of the Chinese Republic, has addressed to the London Missionary Society a letter of thanks for the work done in the society's hospital at Liao Kan, near Hankow, during the revolution. Dr. Ho states that over one-third of the total wounded northern troops were admitted to the hospital, and that about 90 per cent. were discharged completely recovered. He asserts that by the prompt application of first aid dressings and other treatment, loss of life and limb was reduced to the lowest ratio known in the history of warfare.

The transformation of the Sleeping Sickness Bureau into the Tropical Diseases Bureau, and the transfer of the office to the Imperial Institute, London, have now been carried out, and in October next the sleeping sickness and kala-azar *Bulletins* will give place to the *Tropical Diseases Bulletin*, in which will be published summaries of current literature of tropical and subtropical diseases; a quarterly *Tropical Veterinary Bulletin* will also be issued by the Bureau. Communications should be addressed to the Director, Tropical Diseases Bureau, Imperial Institute, London, S.W.

IT is officially stated that since the establishment of the leper colony at Culion there have been collected in the Philippine Islands and transferred thither approximately 6,000 lepers, of whom about 3,000 came from the island of Cebu. Although Cebu contains only one-tenth of the total population of the Philippines, it has thus furnished nearly one-half of the cases of leprosy. There are now living in the community at Culion over 2,000 lepers. They have recently been organized into a republic, and have elected as their first president Michael Whalen, an American citizen, and the only Celtic leper in the colony.

AT a special meeting of the Ophthalmological Society of the United Kingdom held on July 11th, for the purpose of considering the question of amalgamation with the Royal Society of Medicine, a proposal in favour of amalgamation, unanimously supported by the Council, was put before the meeting. The following amendment was carried by a majority of eleven votes: "That this meeting views with sympathy the proposal to form an Ophthalmological Section of the Royal Society of Medicine, and it is desirous of removing any obstacle thereto, and therefore requests the Council of the Ophthalmological Society to consider the

advisability of so altering its rules that all its meetings may be held each year during the course of one week, as is done by other national ophthalmological societies.

THE Highland Railway has issued a new edition of its *A.B.C. Tourist Guide*. A large number of round journeys are shown to be easily possible from Inverness, Perth, and other of the larger towns within the company's area. The Highland Railway is a very comfortable line, and it may be doubted if any other, either in Great Britain or abroad, permits so much of beauty and historic interest to be seen in the course of a single day. Copies of the guide can be obtained on application to the offices of the railway at Inverness, Glasgow, and Edinburgh, or to its London agent, Messrs. W. T. Hedges, Effingham House, Arundel street, Strand.

THE ninth study tour of the Association Internationale de Perfectionnement Scientifique (International Scientific Improvement Association), which is under the patronage of the French Government, will take place in August next. The party will meet at Besançon on August 8th. The following is the itinerary: Salzburg, Königsee, Salt Mines of Berchtesgaden, Reichenhall, Tauern, Karawankes, Wochein, Adelsberg Grots, Agram, Danube, Pass of Kazan, Bucarest, Constantinople (Pera-Stamboul-Scutari), Sofia, Belgrade, Fiume, Abbazia (the Nice of the Adriatic), Trieste, the Peninsula of Miramare, Venice. Separation on August 30th at Aix-les-Bains. For full particulars application should be made by letter to "A.P.M.," Office, 12, rue François-Millet, Paris XVI^e^, or personally on Wednesdays and Saturdays from 3 to 4 p.m.

THE interim report of the Tuberculosis Commission on the Admission of Tuberculous Immigrants to South Africa, published in the *South African Medical Record* for May 25th, expresses the Commission's regret that it has been unable to obtain the evidence of the local representatives in Capetown and the chief shipping companies carrying passengers to South Africa, the invitation tendered to them by the Commission having been declined. The Commissioners recognize the extreme difficulty of any attempt to effect the total exclusion of tuberculous immigrants, and consider any such attempt inadvisable. At the same time they are "very strongly of opinion that every possible and legitimate means of discouraging such immigration should be adopted by the State." There are two prominent objections to the admission of such cases—the danger of their infecting the South African community, and their liability to become a charge upon the State. There are also two serious objections to too vigorous measures for the exclusion of all cases—namely, depriving early cases of the chance of recovering their health by means of the South African climate, and the fact that very drastic measures are apt to give rise to deception. It is also admitted that it is difficult to detect very early cases, even by careful physical examination, or to guarantee that arrested cases are absolutely cured. The Commissioners recommend that the entry of tuberculous immigrants should be confined to ports proclaimed for such entry, and that steps should be taken to detect such cases by medical examination by shipping companies at the port of embarkation and by a Government medical officer at port of arrival, and that "adequate provision should be made for ensuring the provision of separate cabins for tuberculous passengers and for the proper disinfection of such cabins after use."

JUDGING from what was said at the centenary dinner of the Gas Light and Coke Company on June 27th, the fact that coal does "belch forth a wild spirit or breath," or, in other words, yields on distillation an inflammable gas, was first discovered over two hundred years ago, but, like many other facts, had to be rediscovered several times before any particular attention was paid to it. Apparently the first discoverer was the famous Dutch physician, Van Helmont (to whom we owe the word "gas"), and the second, some fifty years later, a Yorkshire cleric named Clayton. These, like some other later "discoverers," seem to have employed the fact chiefly as a means of amusing their friends, so that the first real attempt to employ gas as a means of lighting and warming houses was left to be made by a Cornishman named Murdock. After using gas for some time in his own house he employed it for lighting a factory at Birmingham belonging to a firm in which the famous Watts was a partner. This was in 1796, and within a few years the first foundations of the Gas Light and Coke Company of to-day were laid. Its initiator, however, was not a native of these islands, but one Winzer, a Moravian immigrant, who afterwards called himself Winsor. What a difference the introduction of the use of gas for lighting streets and houses made is somewhat difficult to realize at the present date, but Sir Thomas Crosby, who was present at the dinner, was able to bring it home to some extent by relating facts derived from his recollections of his own early days in Lincolnshire. Both he and the chairman, Mr. Corbet Woodall, seemed to be satisfied that the gas industry still stands on a perfectly sound footing; and probably no one will disagree with them. No doubt gas is not the healthiest form of illuminant for private houses, but its increased use for cooking and allied purposes would largely contribute to the public health. No doubt, coal burnt in open grates as a means of providing hot water and cooking food bulks largely as a factor in the deterioration of the air of all towns.

WE learn from the *New York Medical Journal* that on January 1st, 1912, there were 146 cases of leprosy in the continental United States. Of that number 40 were new cases, which first came under official recognition during the year 1911. This number, however, indicates only a part of the total, as in many States the disease is not notifiable, while in others notification is for various reasons difficult to enforce. There are complete returns from only 18 States, and the District of Columbia; Alabama, 0; California, no report; Connecticut, 1; District of Columbia, 0; Florida, 2; Idaho, 0; Illinois, 0; Indiana, 1; Iowa, 0; Massachusetts, 13; Nebraska, 0; New Jersey, 0; New York, 5; Oregon, 0; Pennsylvania, 3; South Carolina, 0; Utah, 1; Washington, 2; Wisconsin, 1. Leprosy is also notifiable in Hawaii (696), Philippine Islands (2,754), and Porto Rico (28). In comparing this number of 146 lepers reported on January 1st, 1912, with the report of 1901, in which the commission mentioned 278 lepers, 145 of whom were born in the United States, 120 in foreign countries, and 13 in places unknown, our contemporary says it should not be inferred that there is a lessening prevalence of the disease, as the cases reported in 1912 were, with one or two exceptions, under the control of State or local authorities, and no outsiders were mentioned, while of the report of 1901 only 72 lepers were isolated and provided for by the States or cities in which they lived.

A COMPLIMENTARY supper was given by the members of the City Division at the Holborn Restaurant on July 9th to Dr. A. G. Southcombe, who is retiring from the Honorary Secretaryship of the Division after three years' service. Dr. David Ross, Chairman of the Division, presided, and forty members were present. The only other guest was Dr. Alfred Cox, Medical Secretary of the Association. After supper and the honouring of the usual loyal toasts, the Chairman, in proposing the health of the guest of the evening, referred to the exceptional increase that the State insurance scheme had caused in the work of the Honorary Secretary, and to the unobtrusive devotion of Dr. Southcombe to the interests of the Association in general and the City Division in particular. The annual meeting in May last having decided that some recognition of this work should be made, a subcommittee was appointed, and over a hundred members had responded to the appeal, and the results of their generosity were a handsome silver spirit tantalus bearing the following inscription: "Presented to A. G. Southcombe, M.D., in recognition of his services as Honorary Secretary to the City Division of the British Medical Association, 1910–1912," and a dressing case with ivory and silver fittings. Dr. Southcombe said that he was very conscious of all the work that might have been done, and of how much others had done to help the work of the Division and Association. He was glad that the recent reorganization of the Branch area had not necessitated any alteration in the boundaries of the Division, and finally thanked them for their generous testimonial. The toast of "The British Medical Association" was proposed by Dr. Major Greenwood, and acknowledged by Dr. Cox, who expressed his cordial appreciation of the spirit and energy displayed throughout the City Division, and of the sound work which, as nobody knew better than he, had been done by Dr. Southcombe. He wished that all other Divisions might rise to the same level, and referred to the special difficulties of organization in London—difficulties which the City Division was meeting with conspicuous success. He had been particularly impressed by the action taken by the Finsbury Medical Society in holding a public meeting at the Finsbury Town Hall, to which all the townspeople were invited to hear the views and arguments of the profession. Such a proceeding might well be copied in other areas all over the country. Though realizing that an anxious time was before the profession, he was of opinion that the cordial co-operation of the profession was so essential to the success of the Insurance Act that if it remained in its present united condition the fight was bound to end in victory.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

D. P. H. asks for references to recent literature on the pathology of dyspnoea.

KILINDINI wishes to know how he may make a cheap trip to Mombasa and back.

W. E. H. asks for information, especially as to results of vaccine treatment, in the treatment of severe pyorrhoea alveolaris with chronic diarrhoea and great wasting.

F. J. W. desires a good, popular, yet scientific, account of suitable and appetizing dietaries (especially as regards dinners) for middle-class children, between the ages of 9 and 17, at boarding schools.

DR. JAMES CROCKET (Carronshore, Falkirk) asks for suggestions as to what could be done with an intelligent lad of 14 who has lately lost both arms at the shoulder-joint as the result of an accident. What work could he do that would eventually prove a source of livelihood? Is there any institution that would undertake his training?

PHLEBITIS asks for advice in the treatment of an unmarried woman, aged 25, who is anaemic and suffers from phlebitis in both legs. She has been operated upon for floating kidney (right), and complains of pain over the left lower ribs, for which no cause can be found. During the last three months she has been in bed and treated with iron tonics, and for about a fortnight with potassium iodide; she is constipated, and at times has a foul tongue and vomits.

ANSWERS.

INCOME-TAX.

NORTH WALES.—When ascertaining profits for income tax purposes it is, we believe, customary to deduct the exact amount spent on drugs, and not a percentage of the gross receipts.

DUTIES OF A DISTRICT NURSE.

H.—The question referred to by our correspondent frequently arises in connexion with the duties of district nurses. If our correspondent will refer to page 42 of the SUPPLEMENT to the JOURNAL of July 6th, he will find the Model Rules which were approved by the Annual Representative Meeting in 1910, and which should be included in the rules of nursing associations. Special reference is made to the inclusion of medical practitioners on the committees of nursing associations. Our correspondent might be well advised to bring the matter of the nurse's action, with regard to the treating of his patients, strongly before the committee, at the same time pointing out the danger they run should anything untoward happen to any of the patients so treated without a medical man being called in, and state that he will refuse to attend any cases so treated by her, giving his reasons for doing so. If no notice is taken of our correspondent's complaints by the local association the matter should be referred to the parent association, to which this local branch is affiliated.

SUBLUXATIONS OF THE HUMERUS.

BALU.—Subluxations of the humerus seem to be stages intermediate between the normal condition and dislocation. The subject is discussed in most of the newer textbooks, for example, Keen's *Surgery* (Saunders and Co., 1907), vol. ii, and Thomson and Miles's *Textbook of Surgery*, 1911, vol. i, but the discussion is limited. In Erichsen's *Surgery*, 10th edition, 1895, mention is made of subluxation forwards. The lesion "has all the signs of subcoracoid dislocation but in a minor degree; it can be easily replaced and as easily slips out again, and the injury is apt to lead to permanent weakness of the shoulder-joint. Treatment consists in reduction and retention of the head of the bone in its place by a carefully moulded leather shoulder cap fitted with a truss spring and pad to press the head of the humerus against the glenoid surface." Erichsen also quotes a case published by Le Gros Clark in which there was "partial dislocation of the head of the humerus behind and below the acromion," but no details are given. Professor Caird in 1896 published a pamphlet in which he described a groove on the head of the humerus due to pressure against the hard posterior edge of the glenoid. He entered into anatomical details to explain the persistence of the displacement. In Treves's *System of Surgery*, 1895, p. 971, will be found the following: "Subspinous dislocation is an exceptional injury; the head of the bone may rest anywhere between the posterior edge of the glenoid cavity and the infraspinous region; the capsule is torn below and the subscapularis is usually completely ruptured." Platt in *Fractures and Dislocations of the Upper Extremity*, 1899, p. 185, says, "Two varieties of subspinous dislocation, subacromial and subspinous, have been described according to the amount of backward displacement." He quotes a case in which the diagnosis could not be made, and it was only when the head of the bone was felt to slip into its place under an anaesthetic that all those present were satisfied that a dislocation had actually existed. Our correspondent will see from these quotations that authors seem to regard subspinous subluxation as a stage in the evolution of subspinous dislocation, and the treatment is essentially the same as that of the grosser lesion. Diagnosis has hitherto been made clinically; careful search in Roentgen ray literature has failed to find any note or picture on the lesion. The only actually known cases of subluxation or partial dislocation backwards are those of Le Gros Clark and Platt and Caird. On the other hand, subspinous dislocation is recognized as one of the classical dislocations of the head of the humerus. In Keen's *Surgery*, 1907, vol. ii, it is stated on the authority of Van Geyer (quoted by Hoffa) that only 30 cases of subspinous and subacromial dislocations are on record (the first description of the latter is attributed to Malgaigne); in the subacromial variety the head penetrates the posterior wall of the capsule and is found beneath and behind the posterior edge of the acromion, in the subspinous variety the head lies further back beneath the spine of the scapula.

LETTERS, NOTES, ETC.

THE LORD MAYOR OF LONDON.

DR. QUINTIN MCLENNAN (Glasgow) writes: I would venture once more to draw the attention of the medical profession over the country to the fact that the present Lord Mayor of London is a medical man. To reach such an honourable position he must have led a very busy and strenuous life, and as his present high office and his personality has reflected great credit and honour upon himself and the medical profession as a whole, I am of opinion that some tangible token of the profession's high esteem for himself, and for his high civic position, should be presented to him before he retires into private life. I hope some of the leaders of medicine will make a move in the direction I have indicated. If this testimonial scheme is set a-going, I will most willingly, and with pleasure, contribute my mite. Such a unique occasion should not be allowed to pass by unnoticed by the followers of the healing art.

FRIENDLY SOCIETIES AND THE MEDICAL PROFESSION.

THE town at which was delivered the address to members of friendly societies summarized at page 88 of our issue for July 13th was Bromsgrove, not Bromwich, as was by a clerical error printed. It should have been made clear that Dr. Kidd was asked by his professional brethren to give the address, partly because he was the senior medical man in the town, and partly because he was considered to be most capable of doing justice to the subject, and, as was said last week, the event proved this anticipation to have been correct. We are assured that political considerations did not weigh with the profession in his selection.

THE CAUSE OF FRECKLING.

DR. F. W. EDRIDGE-GREEN writes: I have read with interest Dr. Pernet's suggestive letter. As the point is one of considerable importance from a scientific point of view, I think that inquiries should be made of those in charge of the blind. If freckling be very uncommon in those who are totally blind, this will afford important support to the proposed explanation.

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